



How-to Guide: *TR-8 Inspections Reporting*

In Compliance with
New York City Energy Conservation Code,
1 RCNY 5000-01 Progress Inspections
& 1 RCNY 101-07 Administration

- GENERAL
- BUILDING ENVELOPE
- **MECHANICAL SYSTEMS**
- LIGHTING & ELECTRICAL POWER
- OTHER REQUIREMENTS

For the purposes of this guide, the word “document” shall mean to describe, and photograph observed conditions.
Design requirements related to inspections below may be referenced in [How-to Guide: Supporting Documentation](#)

NOTE: In this *How-To Guide: Supporting Documentation*, selected Energy Code provisions have been generalized, summarized, rephrased, and/or highlighted. This guide is intended: 1) To provide general guidance for the job applications seeking compliance with the 2020 NYCECC; 2) Not to replace or represent the entire 2020 NYCECC and related regulations of the City of New York and the Department of Buildings; and 3) Not to provide complete compliance solutions for any particular type of job or work. Comprehensive mandates, applicability, exemptions, exceptions and options will be found in the 2020 NYCECC and related regulations of the City of New York and the Department of Buildings

FIREPLACES - IB1, IIB1

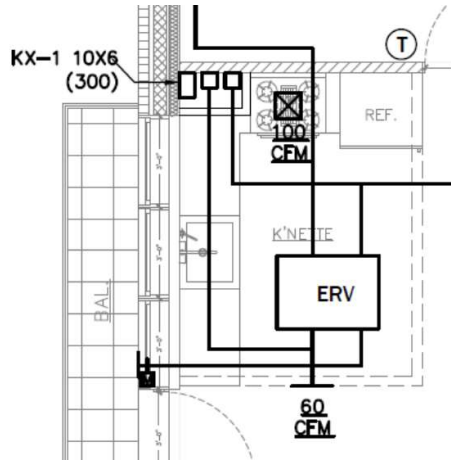
■ Inspection / Test Required	
<ul style="list-style-type: none"> - IB1, IIB1 Fireplaces: Provision of combustion air and tight-fitting fireplace doors must be verified by visual inspection. - Inspector shall verify proper operation of fireplace dampers and combustion air flow to meet required thermal performance. 	R402.4., C402.2.8 BC 2111; MC Chapters 7-9; FGC Chapter 6
■ Observations, Comments & Description	
<ul style="list-style-type: none"> - Verify that completed fireplace is weather-tight and sealed per design documents. - Verify that damper is properly calibrated. Where doors are present, verify tightness and proper sealing. - Where fireplace does not meet requirements, Inspector shall document deviation at location and may recommend remedy. 	
■ Photographic Documentation	
<ul style="list-style-type: none"> - Verify as-built conditions match specifications in construction drawings. - Provide photograph of reference detail or manufacturers specifications and photograph of fireplace, as applicable. 	
■ Remarks & Remedy	
<ul style="list-style-type: none"> - Remarks and Remedy shall include the disposition of each Inspection: <i>Conformance per plans, Work in progress, Pending re-inspection, Non-compliant built conditions identified, Conflict with drawings identified</i>, etc. - Inspector may provide recommendations and remedial actions to be verified, as applicable. 	

VENTILATION & AIR DISTRIBUTION SYSTEM - IB2

■ Inspection Required – (to meet Mandatory Requirements)	
<ul style="list-style-type: none"> - IB2 Ventilation and air distribution system: Ventilation system must be verified to comply with ERV/HRV requirements or balanced ventilation system. Whole-house ventilation fan efficacy must be verified by visual inspection. Not less than 20% of installed automatic or gravity dampers, and a minimum of one of each type, must be visually inspected and physically tested for proper operation. - R403.6.2 Balanced ventilation and HRV/ERV systems (Mandatory). In new buildings, every dwelling unit shall be served by a heat recovery ventilator (HRV) or energy recovery ventilator (ERV) installed per manufacturer's instructions. The HRV/ERV must be listed and sized adequately for the specific application, which will include the building's conditioned area, and number of occupants. - Inspector shall verify that all mechanical equipment is installed within thermal enclosure. - Inspector shall verify proper operation of ERV/HRV unit and all related HVAC equipment (as noted below). - Location of equipment and duct work shall be documented while walls, ceilings and floors are open, prior to the installation of interior gypsum board or other finishes. 	<p><i>R403.6,R403.8, C403, C404</i></p>
■ Observations & Comments	
<ul style="list-style-type: none"> - Verify that mechanical system and ERV/HRV is installed in accordance with (i) the manufacturer's installation instructions, (ii) the specified details in the DOB Approved plans and (iii) the applicable provisions of the New York City Construction Codes. - Where whole house ERV/HRV unit is installed in conjunction with non-ducted systems (heat pumps or hydronic radiant systems), Inspector shall provide documentation to meet the standards of an ACCA - HVAC Quality Installation Verification Protocols ANSI/ACCA 9QIvp 2016 , Level 1 evaluation. - Where ERV/HRV unit or balanced ventilation is connected through a ducted HVAC system (whole house AHUs) , Inspector shall provide documentation for the ERV/ HRV unit or a balanced ventilation system to meet the standards of an ACCA - HVAC Quality Installation Verification Protocols ANSI/ACCA 9QIvp 2016 , Level 2 evaluation. - Where ERV/HRV is not installed within the thermal enclosure or does not meet the requirements of evaluations above, Inspector shall document all deviations by location and immediately notify the Applicant of Record, Owner & the Department. 	

■ Photographic Documentation

- Verify as-built conditions match unit type and specifications in construction drawings.
- Provide full frame photograph of each unit at each location with related close-up of efficiency or certification label.
- Where unit does not have visible label, Inspector shall document unit and cross reference with manufacturers certification report.
- Where unit is not installed correctly, Inspector shall document deviation at each location and may recommend remedy.



All drawings should clearly indicate unit type and location with duct type and location. Each plan must show area served with CFM indicated.



Inspector shall document capacity and efficacy of installed unit and verify against values indicated in the Energy Analysis and /or mechanical schedules.



Units shall not be installed outside the thermal envelope. Where condition is observed, Applicant must be notified to recommend remedy

■ Remarks & Remedy

- Remarks and Remedy shall include the disposition of each Inspection: *Conformance per plans, Work in progress, Pending re-inspection, Non-compliant built conditions identified, Conflict with drawings identified, etc.*
- Inspector may provide recommendations and remedial actions to be verified, as applicable.
- Where proper operation of ERV/HRV unit cannot be verified using the methods above or the installed balanced ventilation does not conform to mandatory code requirements, Inspector shall notify the Applicant of Record, Owner & the Department. The Applicant of Record shall be responsible to direct any required remediation or update drawings with PAA as necessary to meet mandatory requirements of R403.6.
- Where minor deviations occur, Inspector may provide recommendations and remedial actions to be verified, as applicable.

SHUTOFF DAMPERS – IIB2

■ Inspection Required – (to meet Mandatory Requirements)	
<ul style="list-style-type: none"> - IIB2 Shutoff dampers: Dampers for stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope must be visually inspected to verify that such dampers, except where permitted to be gravity dampers, comply with approved construction drawings. Manufacturer’s literature must be reviewed to verify that the product has been tested and found to meet the standard. - Inspector shall document operation of shutoff dampers and related mandatory controls per C403.7.7, where applicable, - Compliance related to sealing and air leakage shall be verified prior to the installation of any interior finishes. 	<p>C402.5.5, C403.7.7; ASHRAE 90.1 – 6.4.3.4</p>
■ Observations & Comments	
<ul style="list-style-type: none"> - Verify that all dampers for mechanical equipment (and stairway/shaft vents, where applicable) are installed in accordance with (i) the manufacturer’s installation instructions, (ii) the specified details in the DOB Approved plans and (iii) the applicable provisions of the New York City Construction Codes. - Description must indicate type of unit (air handler, exhaust/intake vent, stairway/shaft, etc.) with explanation of how unit is controlled and how the envelope penetration is sealed to mitigate infiltration at frame. - Where manufacturers labels are not present, Inspector may test installed unit against specification to certify compliance. - Where any unit is not installed or operating as specified, Inspector shall document all deviations by location and may recommend remedy prior to re-inspection, where necessary. 	
■ Photographic Documentation	
<ul style="list-style-type: none"> - Verify as-built conditions match specifications in construction drawings. - Document location and proper installation of units with reference to product labels or certified specification for unlabeled units. - Provide photograph of reference detail or manufacturers specifications and photograph of damper/ controls, as applicable. 	
■ Remarks & Remedy	
<ul style="list-style-type: none"> - Remarks and Remedy shall include the disposition of each Inspection: <i>Conformance per plans, Work in progress,</i> - <i>Pending re-inspection, Non-compliant built conditions identified, Conflict with drawings identified, etc.</i> - Inspector may provide recommendations and remedial actions to be verified, as applicable. 	

HVAC-R EQUIPMENT AND SERVICE WATER HEATING - IB3 , IIB3

<div> <div>■ Inspection Required</div> </div>	
<ul style="list-style-type: none"> - IB3 HVAC and service water heating equipment: Heating and cooling equipment must be verified by visual inspection for proper sizing. Pool heaters and covers shall be verified by visual inspection. , - IIB3 HVAC-R, commercial kitchen equipment, and service water heating equipment: Equipment sizing, efficiencies, pipe sizing and other performance factors of all major equipment units, as determined by the applicant of record, and no less than 15% of minor equipment units, must be verified by visual inspection and, where necessary, review of manufacturer’s data. Pool heaters and covers must be verified by visual inspection. - Inspector shall verify proper installation, sizing and efficiency of mechanical and service water heating equipment of installed units. - Compliance shall be verified by inspection of manufacturers equipment labels against the Energy Analysis and Approved plans. 	<p><i>R403, C403, C404. C405.10, C406; ASHRAE 90.1 – 6.3, 6.4, 6.5, 6.7, 7.4, 7.5, 7.8. 10.4.6, Appendix I,</i></p>
<div> <div>■ Observations & Comments</div> </div>	
<ul style="list-style-type: none"> - Verify that all mechanical equipment is installed in accordance with (i) the manufacturer’s installation instructions, (ii) the specified details in the DOB Approved plans and (iii) the applicable provisions of the New York City Construction Codes. - Description must indicate type of unit (heat pump, air, handler, furnace, etc.) with explanation of how unit is controlled and whether unit meets requirements set forth by mandatory requirements or Approved drawings and specifications. Where manufacturers labels are not present, Inspector may test installed unit against specification to certify compliance. - Where any unit is not installed or operating as specified, Inspector shall notify the Applicant of Record, Owner & the Department. The Applicant of Record shall be responsible to direct any required remediation or update drawings with PAA as necessary to meet mandatory requirements. 	

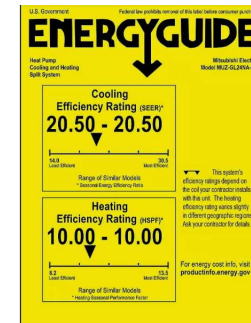
Photographic Documentation

- Verify as-built conditions match specifications in construction drawings.
- Document location and proper installation of units with reference to product labels or certified specification for unlabeled units.
- Provide photograph of reference detail or manufacturers specifications and photograph of damper/ controls, as applicable.

MARK	MANUFACTURER/ MODEL	UNIT	COOLING	EER	ELECTRICAL	MEA #	SERIAL #	LOCATION	REMARK
(+)	MITSUBISHI/ MCY-G09NA	1	1200 CFM	23.1	208-230V, 3ph 60hz	UL LIST	69W01827	EXTEIOR WALL	OUTDOOR CONDENSER UNIT
(+)	MITSUBISHI/ MCY-G09NA	1	1200 CFM	23.1	208-230V, 3ph 60hz	UL LIST	62W02218	EXTEIOR WALL	OUTDOOR CONDENSER UNIT
(+)	MITSUBISHI/ MCY-G09NA	1	1200 CFM	23.1	208-230V, 3ph 60hz	UL LIST	62R04146	2NDFL	INDOOR AIR HANDLER UNIT
(+)	MITSUBISHI/ MCY-G09NA	1	1200 CFM	23.1	208-230V, 3ph 60hz	UL LIST	69W01707	2NDFL	INDOOR AIR HANDLER UNIT
(+)	MITSUBISHI/ MCY-G09NA	1	1200 CFM	23.1	208-230V, 3ph 60hz	UL LIST	6XW04136	2NDFL	INDOOR AIR HANDLER UNIT
(+)	MITSUBISHI/ MCY-G09NA	1	1200 CFM	23.1	208-230V, 3ph 60hz	UL LIST	4ZA04171A	2ND FL	INDOOR AIR HANDLER UNIT

PROPOSED TWO FAMILY HOUSE WITH CELLAR, 1ST, 2ND AND ATTIC TOTAL FOOR AREA NEED AIR FLOW
 FORMULA: (TOTAL SQUARE FOOTAGE OF THE HOME/100) + ((NUMBER OF BEDROOMS+1) X 7.5
 CFM)=(4903.88SF/100)+(6BEDRMS+1)X7.5=49+52.5=101.5 CFM FOR ENTIRE HOUSE(CELLAR, 1ST,2ND AND ATTIC) THEREFORE INSTALL ONE AIR
 KING FRESH AIR MACHINE MODEL#OFAND, 30-130 CFM FRESH AIR MACHINE TO BALANCE AS PER R403.6.2(1) 6 BED ROOMS(WHOLE HOUSE)
 4903SF THE AIR FLOW 105 CFM - PROVIDE 130 CFM OK

R403.6.2(2) INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS
 130 CFM /101.5CFM THE FACTOR WILL BE 1.3 -75%



Inspector shall verify that equipment make/model, quantity, capacity and energy ffficiency match specifications on Approved drawings.

Inspector shall verify installed equipment matches model and efficiency specified in Approved drawings.

Where equipment has been substituted for equal or better, Inspector shall document and refer to Owner and Applicant.

Remarks & Remedy

- Remarks and Remedy shall include the disposition of each Inspection: *Conformance per plans, Work in progress,*
- *Pending re-inspection, Non-compliant built conditions identified, Conflict with drawings identified, etc.*
- Where all units are found to be compliant, Inspector shall document all equipment and submit report.
- Where deviations occur, Inspector shall notify Applicant of Record, Owner & the Department. The Applicant of Record shall be responsible to direct any required remediation or update drawings with PAA as necessary to meet mandatory requirements.

HVAC-R EQUIPMENT AND SERVICE WATER HEATING SYSTEM CONTROLS - IB4, IIB4

<p>■ Inspection Required – (to meet Mandatory Requirements)</p>	
<ul style="list-style-type: none"> - IB4 ,HVAC and service water heating system controls: System controls must be inspected to verify that each dwelling is provided with at least one individual programmable thermostat..., Controls for supplementary electric resistance heat pumps...., Controls for whole-house mechanical ventilation (balanced ventilation option) shall enable manual override..., Controls for turning off circulating hot water pumps when not in use ..., in accordance with 1-RCNY 5000-01 TABLE I B4 - IIB4, HVAC-R and service water heating system controls: No less than 20% of each type of required controls must be verified by visual inspection and tested for functionality and proper operation. Such controls must include, but are not limited to: Thermostatic <ul style="list-style-type: none"> ▪ Off-hour ▪ Zones ▪ Ventilation System and Fan Controls ▪ Energy recovery systems ▪ Fan systems ... ▪ HVAC control in hotel/motel guest rooms ▪ Air/Water Economizers & controls ▪ Hydronic systems ▪ Heat rejection systems, etc. to verify accordance with 1-RCNY 5000-01 TABLE IIB4 	<p><i>R402.4 C402.5; ASHRAE 90.1 – 5.4.3.1, 5.4.3.5, 5.9</i></p>
<p>■ Observations & Comments</p>	
<ul style="list-style-type: none"> - Document that all controls, power packs and wiring are installed in accordance with (i) the manufacturer's installation instructions, (ii) the specified details in the DOB Approved plans and (iii) the applicable provisions of the New York City Construction Codes. - Description must indicate the type and location of each component inspected with explanation of how the control device is interconnected with the equipment being controlled or spaces being served. 	
<p>■ Photographic Documentation</p>	
<ul style="list-style-type: none"> - Verify as-built conditions match specifications in construction drawings. - Provide photographs of installed controls at each location for all major systems. Documentation must include examples of each control type at varied locations as required to meet the specified sampling rate, or at least one example of each unique control specified, where applicable. - Where unit is not installed correctly, Inspector shall document deviation at each location and may recommend remedy. 	
<p>■ Remarks & Remedy</p>	
<ul style="list-style-type: none"> - Remarks and Remedy shall include the disposition of each Inspection: <i>Conformance per plans, Work in progress, Pending re-inspection, Non-compliant built conditions identified, Conflict with drawings identified, etc.</i> - Where all components are found to be compliant, Inspector shall document at least one unit of each type and submit report. Where component cannot be verified using the methods above or work does not conform to Approved specification, Inspector shall notify the Applicant or Record and Owner. Applicant or Record shall be responsible to submit a Post Approval Amendment to update the Approved drawings to reflect the as-built conditions. - Where deviations occur, Inspector may provide recommendations and remedial actions to be verified, as applicable 	

HVAC-R AND SERVICE WATER PIPING DESIGN & INSULATION - IB5, IIB5

■ Inspection Required – (to meet Mandatory Requirements)	
<ul style="list-style-type: none"> - IB5, IIB5 HVAC-R and service water piping design and insulation: Installed piping insulation must be visually inspected to verify proper insulation placement and values. Service hot water distribution systems must be inspected to verify the supply of heated water. 	<i>R403, MC1204 C403, C404 MC603.9; ASHRAE 90.1 – 6.3, 6.4.4, 6.8.2, 6.8.3; 7.4.3</i>
■ Observations & Comments	
<ul style="list-style-type: none"> - Document that all piping and insulation is installed in accordance with (i) the manufacturer’s installation instructions, (ii) the specified details in the DOB Approved plans and (iii) the applicable provisions of the New York City Construction Codes. 	
■ Photographic Documentation	
<ul style="list-style-type: none"> - Verify as-built conditions match specifications in construction drawings. - Provide photographs of the site-specific conditions. Documentation must include evidence that piping has been insulated as required by Approved documents to the thickness and placement required. - Systems must be inspected to verify temperature and supply of heated water, where applicable. 	
■ Remarks & Remedy	
<ul style="list-style-type: none"> - Remarks and Remedy shall include the disposition of the Infiltration testing: Test conducted - in compliance, Test conducted – remedy required, Additional testing required, etc. - Where all building is found to be compliant, Inspector shall document qualifying test and submit report. - Where compliance cannot be verified using the methods above or work does not conform to Approved specification, Inspector shall notify the Applicant or Record and Owner. Applicant of record shall be responsible to submit a Post Approval Amendment to update specifications required to reflect the remedies to as-built conditions. - Where deviations occur, Inspector may provide recommendations and remedial actions prior to re-testing, as applicable. 	

DUCT LEAKAGE TESTING, INSULATION & DESIGN – IB6 , IIB6

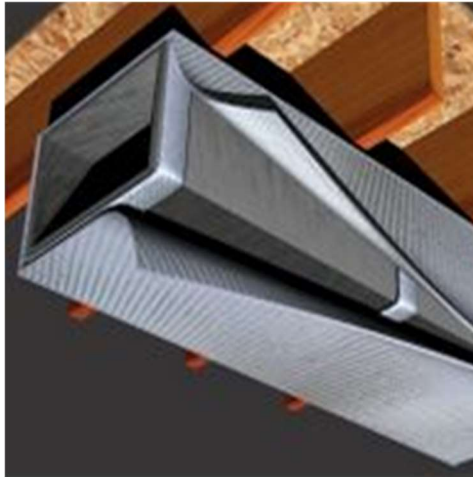
■ Inspection Required – (to meet Mandatory Requirements)	
<ul style="list-style-type: none"> - IB6 Duct leakage testing, insulation and design: All ductwork and air handlers must be inspected to verify that the system is entirely within conditioned space. Ducts must be verified by visual inspection for proper sizing. Ducts, air handlers, filter boxes and building cavities used as ducts shall be visually inspected for proper sealing. - IIB6 Duct leakage testing, insulation and design: For duct systems designed to operate at static pressures in excess of 3 inches w.g. (747 Pa), representative sections, as determined by the progress inspector, totaling at least 25% of the duct area, must be tested to verify that actual air leakage is below allowable amounts. - Installed duct insulation must be visually inspected to verify proper insulation placement and values. Joints, longitudinal and transverse seams and connections in ductwork must be visually inspected for proper sealing. - Manufacturer's literature must be reviewed to verify that the product has been tested and found to meet the standard. - Compliance related to sealing and air leakage shall be verified prior to the installation of interior finishes. 	<p>R403.3, C403; MC603.9 C403.11; ASHRAE 90.1 – 6.4.4.2.2</p>
■ Observations & Comments	
<ul style="list-style-type: none"> - Verify that all ductwork has been installed, sealed and tested in accordance with (i) the manufacturer's installation instructions, (ii) the specified details in the DOB Approved plans and (iii) the applicable provisions of the New York City Construction Codes. - Description must indicate type of duct, unit served and how duct was sealed and tested to mitigate leakage. - Where applicable, leakage must be verified at varied locations required to meet sampling rates specified in Approved documents. - Where leakage testing is not found to be compliant, Inspector may request remedy and verify to certify compliance. - Where any duct does not meet requirements as described above, Inspector shall document all deviations by location and may recommend remedy prior to re-inspection where necessary. 	

■ Photographic Documentation

- Verify as-built conditions match specifications in construction drawings.
- Provide photograph of reference detail or manufacturers specifications and photograph of fireplace, as applicable.



Verify that all ducts are sealed & fully encased with insulation as specified



Verify that ducts are properly sealed & tested to meet requirements as specified



Verify that all piping is insulated, wrapped & visually inspected to meet requirements

■ Remarks & Remedy

- Remarks and Remedy shall include the disposition of each Inspection: *Conformance per plans, Work in progress,*
- *Pending re-inspection, Non-compliant built conditions identified, Conflict with drawings identified, etc.*
- Inspector may provide recommendations and remedial actions to be verified, as applicable.

End of Section