



SECTION 01 51 50 - CONSTRUCTION INDOOR AIR QUALITY

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Documents: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Section Includes, without limitation, providing, maintaining and managing:
 - 1. Minimum indoor air quality (IAQ) performance during the construction period and before occupancy.
 - 2. Compliance with performance standards.
 - 3. Construction Indoor air quality management plan.
- C. Sustainable design intent: Comply with project requirements intended to achieve certification, measured and documented according to the LEED of the US Green Building Council, as follows:
- D. Related requirements includes, without limitation:
 - 1. Section 01 57 10 - Construction waste management.
 - 2. Section 01 81 10 - Sustainable design requirements.
 - 3. Section 01 91 00 - Commissioning
 - 4. Division 23 - HVAC.
 - 5. Divisions 2 through 33 Specification Sections:
Specific requirements relating to indoor air quality for each Section.

1.2 PERFORMANCE REQUIREMENTS

- A. Comply with minimum requirements of building code and Sections 4 through 7 of ASHRAE 62.1-2007, Ventilation for Acceptable Indoor Air Quality and approved Addenda.
 - 1. Coordinate with requirements of Division 23 –HVAC.
 - 2. Coordinate with requirements of Section 01 91 00 Commissioning.
- B. Prevent exposure of building systems to environmental tobacco smoke during construction. At a minimum, take the following measures:
 - 1. Do not allow smoking in enclosed portions of the project site.
 - 2. Do not allow smoking adjacent to fresh air intakes for the building and operable windows.
- C. During construction meet or exceed the minimum requirements of the recommended Control Measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, ANSI/SMACNA 008-2008 Chapter 3, 2nd edition, published 2007.
 - 1. Protect occupied portions of the building from transfer of dust and particulate matter, noise and odor emissions generated during construction in compliance with the minimum requirements of the recommended Control Measures of the SMACNA standard referenced above.
- D. Protect absorptive materials from moisture damage when stored on-site and after installation.
- E. Use materials and products complying with LEED credit EQc2, Low Emitting Materials.
- F. For LEED EQc3. Construction Indoor Air Quality [IAQ] Management Plan
 - 1. Develop and implement a management plan for construction and preoccupancy phases of the building. The plan shall address the following.
 - 2. During construction, meet or exceed all applicable recommended control measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, current edition, ANSI/SMACNA 008, Chapter 3.
 - 3. Protect absorptive materials stored on-site and installed from moisture damage.
 - 4. Do not operate permanently installed air-handling equipment during construction unless filtration media with a minimum efficiency reporting value (MERV) of 8, as determined by ASHRAE 52.2–2007, with errata (or equivalent filtration media class of F5 or higher, as defined by CEN Standard EN 779–2002, Particulate Air



Filters for General Ventilation, Determination of the Filtration Performance), are installed at each return air grille and return or transfer duct inlet opening such that there is no bypass around the filtration media. Immediately before occupancy, replace all filtration media with the final design filtration media, installed in accordance with the manufacturer's recommendations.

5. Prohibit the use of tobacco products inside the building and within 25 feet (7.5 meters) of building entrance during construction.
8. If permanently installed air handlers are used during construction, filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 shall be used at each return air grille, as determined by ASHRAE 52.2-1999. Protect active outdoor air intakes and return air grilles with applicable filtration media. Periodically inspect temporary media and replace as necessary. Replace filtration media immediately prior to occupancy.

- G. After construction ends but before occupancy, comply with one of the following requirements, per LEED IEQ:
1. Perform a building flush-out with outside air.
 2. Conduct IAQ testing for air contaminant levels in the building.

1.3 SUBMITTALS

- A. Construction Indoor Air Quality Management Plan: With the completed Form of Bidder's Proposal, the Contractor shall submit a preliminary Construction IAQ Management Plan.
1. Within 21 calendar days after receipt of Notice to Proceed, the Contractor shall submit to the Owner a finalized Construction IAQ Management Plan.
 2. The proposed Plan shall comply with Division 23 -HVAC requirements.
 3. The proposed Plan shall include, but not be limited to, the following:
 - a. Protection of ventilation system components during construction
 - b. Contaminant source control.
 - c. Cleaning and replacing contaminated ventilation system components after construction, including filtration media.
 - d. Pathway interruption.
 - e. Temporary ventilation.
 - f. Protection of absorptive materials from moisture damage when store on- site and after installation, including exterior wall rain protection.
 - g. Protection of occupied spaces
 - h. Noise reduction and emissions
 - i. Sequence of finish installation plan.
 - j. Selection of cleaning products and procedures to be used during construction and final cleaning.
 - k. Scheduling.
 - l. Other items as required by SMACNA IAQ Guidelines for Occupied Buildings under Construction, as referenced above.
 4. Coordinate Construction IAQ Management Plan with Owner's current IAQ management plans and procedures.
- B. Material Safety Data Sheets (MSDS):
1. Submit MSDS for materials as required, with date clearly identified.
 2. MSDS must contain specific chemical content data identifying the percent of the total product mass represented by each listed chemical.
- C. Product data: Submit documentation from manufacturer indicating LEED requirements for materials and products of this Section and include:
1. Each type of filtration media used during construction and installed immediately prior to occupancy, include and highlight MERV values the documentation provided.

- D. Sustainability [LEED] Submittals: Comply with requirements of Section 01 81 10 and submit information on required forms.

1.4 PRODUCT REQUIREMENTS

- A. Comply with product requirements, delivery storage and handling provisions of Division 1 and the following:



1. Do not deliver materials until job is ready for installation.
2. Store products in ventilated dry area; protect from dampness, freezing, and direct sun light.
3. Take special care to prevent accumulation of moisture on materials and within packaging prevent development of mold and mildew in packaging and on products.
4. When not in use, store products in original sealed containers, in a designated location.
5. Immediately remove from site and properly dispose of materials showing signs of mold and mildew, including materials with moisture stains.

PART 2 - PRODUCTS

2.1 FILTRATION MEDIA

- A. Filtration Media: Comply with ASHRAE 52.2-2007 and provide filtration media with compliant MERV ratings as required.

PART 3 - EXECUTION

3.1 GENERAL

- A. Comply with the provisions of Section 01 70 00 Execution requirements and 01 77 00 Close out procedures - including requirements related to:
 1. Inspection and examination.
 2. Approvals, inspections and filed quality control.
 3. Cleaning.
 4. Final cleaning
 5. Protection.

3.2 CONSTRUCTION IAQ MANAGEMENT PLAN IMPLEMENTATION

- A. IAQ Manager: The Contractor shall designate an on-site person responsible for instructing workers and overseeing and documenting results of the Construction IAQ Management Plan for the Project.
- B. Distribution: The Contractor shall distribute copies of the Construction IAQ Management Plan to the Job Site Foreman, each subcontractor, the Owner, and the Architect.
- C. Instruction: The Contractor shall provide on-site instruction of appropriate procedures and methods to be used by all parties at the appropriate stages of the Project.
- D. Preconditioning: allow products, which have odors and significant VOG emissions, to off-gas in a dry, well ventilated space for sufficient period to dissipate odors and emissions prior to delivery to Project.
 1. Remove containers and packaging from materials prior to conditioning to maximize off-gassing of VOCs.
 2. Condition products in ventilated warehouse or other building.
- E. Coordinate Construction IAQ Management Plan with final cleaning.

END OF SECTION