

Summary of Changes (v16.08)

1. Paragraph 3.02B (Ventilation After Construction): Renumber sub-paragraph B.9 to B.6 to correct consecutive numbering of sub-paragraphs.
2. Remove gray highlighting of paragraphs throughout Section.
3. Various paragraph formatting revisions (remove extraneous spaces, etc.).

**Temporary Controls - Air Quality Requirements
TECHNICAL GUIDE**

TG 01575

- 1. COORDINATION ISSUES:** (Not used)
- 2. DESIGN ISSUES:** (Not used)
- 3. DRAWING NOTES:** (Not Used)
- 4. STANDARD DRAWINGS:** (Not Used)
- 5. SPECIFICATION NOTES:**
- 6. GUIDE SPECIFICATION:**
 - 6.1 SECTION 01575 - TEMPORARY CONTROLS - AIR QUALITY REQUIREMENTS is attached.
Use as necessary.

SPECIFIER'S NOTE: Blue colored texts are Notes to the Specifier and should be completely deleted from the final text. Where [red colored text in brackets] is shown in this specification section, insert wording, numbers, etc. as appropriate and delete brackets. Where <Red colored text in brackets> is shown, choice is indicated. Make the appropriate choice and delete the brackets. Maintain footer notation in italics with the current version used (e.g. TG 01575 v1604.08). Verify that section titles cross referenced in this Section correspond to this Project's specifications; Section titles may have changed.

Do not include the Project Name (etc.) line in the footer. Use the following format for the specification footer.

TG 01575 v~~1604~~.08
DAGS Job No. ~~00-00-0000~~

Temporary Controls - Air Quality Requirements
01575 - 1

End Footer Sample

SECTION 01575 - TEMPORARY CONTROLS - AIR QUALITY REQUIREMENTS

SPECIFIER'S NOTE: *Include this section in all projects that have the possibility of creating odors, dusts, or other materials that can be spread in the air and cause complaints during the construction.*

SPECIFIER'S NOTE: *Equipment refers to odor producing equipment such as tar pots, etc. Materials would refer to paints, sealants, adhesives, etc.*

PART 1 - GENERAL

1.01 SUMMARY

- A. This section describes the steps that the Contractor shall perform to control odors or dusts generated by the equipment, materials, or actions of the construction process that may affect the quality of air to non-Contractor personnel.

1.02 REFERENCES

- A. "Indoor Air Quality" published by the Sheetmetal and Air Conditioning Contractor's National Association (SMACNA).
- B. American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) standards as follows: 62; 55; 52; and 1.
- C. "Indoor Air Quality in Public Buildings", Volumes I and II, by Sheldon L, Handy RW, Hartwell TD, et al.; (Public Access Buildings Study).
- D. National Particleboard Association (NPA) Standard for Formaldehyde Emission for Particleboard: NPA6.

1.03 DEFINITIONS

- A. "A/C" (Air Cond.) means any or all of the equipment used to air condition a building or space.
- B. "Air changes per hour" shall mean a number calculated by the maximum work area length in feet times the maximum work area width in feet times the maximum work area height in feet divided by 60 times the cubic feet per minute of air movement $(L \times W \times H) / (60 \times CFM)$.
- C. "Odor" means something that can be detected by a person's sense of smell whether objectionable or not to the person.
- D. "Perceivable" means able to attain an awareness solely through the use of the human senses such as smell, sight, hearing, taste, and touch.
- E. "VOC" means volatile organic compound, a compound containing a chemical constituent with a boiling point of less than 100 Deg C (volatile) and that contains carbon (organic).

- F. "VOC emission rate" means the total amount of hydrocarbons emitted per area and unit of time as determined from the product and test method data supplied by the manufacturer or from data in the EPA Public Access Buildings Study.

SPECIFIER'S NOTE: Specify non-volatile materials using other than generic identification. Keep adequate documentation to support the use of volatile materials when specified or left to the discretion of the Contractor.

1.04 SUBMITTALS

- A. Submit a certification, which may be a copy of the product label or Material Safety Data Sheets (MSDS), of the VOC emission rate for all VOC containing products. MSDS sheets and labels are acceptable only if the VOC data is available and highlighted.
- B. Submit VOC emission rates for all products containing any VOC compounds. Maintain a copy of the VOC certifications and emission rates (in a 3-ring binder) at the job site.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Provide temporary equipment including fans, blowers, tape, ducts, temporary wall materials and other similar items.

PART 3 - EXECUTION

SPECIFIER'S NOTE: Item 3.01 define extra work and extra contract time that will be required when products specified or left to the discretion of the Contractor in other sections emit VOC's at unknown rates or greater than 100 micrograms/m²h, or when other odor(s) or dust(s) are generated by construction activities.

3.01 GENERAL REQUIREMENTS

- A. If all particleboard products used in the Project meet NPA 6 Standard, and all other VOC-containing materials have certified VOC emission rates less than 100 micrograms/m²h, the requirements of PART 3 - EXECUTION are not required for VOC control.
- B. Ensure the all work areas are isolated from those areas in which persons not employed by the Contractor will be present during construction, including those interconnected by air conditioning systems, adjacent buildings, and public areas.

SPECIFIER'S NOTE: Clearly identify on the drawings air handling equipment that may be modified for jobs involving odors or dusts. Also, identify equipment that shall not be modified.

1. Install isolation barriers so that odors and dust from the work areas are not perceivable in any surrounding occupied area, then remove the barriers before the final acceptance of the project; or

SPECIFIER'S NOTE: Clearly indicate the extent of the Contractor's work area responsibility on the drawings.

2. Provide local fresh and exhaust air that will be adequate to ensure odors and dust from the work areas are not perceivable in any surrounding occupied area. Meet the following minimum criteria:
 - a. At least 4 air changes per hour continued from the start of any emission producing work until four hours after the conclusion of any emission producing work; and
 - b. Exhaust the ventilating air to the outside of the building, at least 25 feet downwind of any opening to the building, surrounding buildings, or similar occupied areas, and at least 100 feet downwind of any building air supply intakes.
- C. Upon notification by the Contracting Officer of an odor or dust complaint, immediately stop all odors and dust producing tasks, and then execute the requirements of subparagraph 3.01. B. 2. within 4 hours after Contracting Officer's notification.
 1. Compliance with subparagraph 3.01 B. 1. is not considered sufficient isolation in this instance.
 2. If the items in subparagraph 3.01 B. 2. were previously implemented without satisfactory results, increase the air changes to 8 per hour.
 3. The requirements in paragraph 3.01 D. may be performed in lieu of the requirements stated in paragraph 3.01 C. with prior permission from the Contracting Officer or shall be performed if requested by the Contracting Officer.
- D. When the conditions described in subparagraphs 3.01 B. 1., 3.01 B. 2., or paragraph 3.01 C., are unable to maintain an air quality acceptable to 80 percent of the surrounding occupants, perform the following at no extra cost to the State:
 1. Immediately discontinue the use of the offending product(s) upon notification by the Contracting Officer;
 2. Perform the odor or dust generating task(s) during a non-occupied time such as evenings, weekends and holidays;
 3. Thoroughly clean any odor or dust affected area and equipment prior to occupancy; and
 4. Complete the odor or dust generating task(s) at least 16 hours prior to occupancy.

3.02 VENTILATION AFTER CONSTRUCTION

- A. In all work areas of air conditioned new buildings perform a ventilation activity after construction has been completed but prior to occupancy according to the following:
 1. Notify the Contracting Officer prior to starting the work involved with these steps or immediately if any step cannot be successfully completed;
 2. Perform the normal start up procedures for all ventilation equipment;

3. Inspect areas adjacent to air intakes for the existence of air containing odors and eliminate the cause of any odors before proceeding;
 4. Ensure that the air conditioning or ventilation outside make-up air dampers are operable, then set them to remain in the wide open position to provide for the maximum possible flow of outside air into the building;
 5. Set the mechanical cooling equipment such as chilled water and air conditioning compressors as appropriate to off so that the temperature will stay as high as possible;
 6. Open windows and doors (interior) for maximum ventilation of the work area. Use care to maintain security and to prevent infiltration of dirt, debris, dust, or impact on surrounding occupied areas. Maintain protection from the elements of weather, and site cleanliness;
 7. Turn on all of the available lights and heat producing equipment;
 8. Run all of the air handling units and ventilation fans continuously for 72 hours; and
 9. Continue the ventilation procedure beyond the 72 hours if the Contracting Officer determines it necessary. Provide additional exhaust fans if directed by the Contracting Officer. Ventilation beyond 72 hours is considered additional work provided the Contractor followed the steps required in this paragraph 3.02 A.
 10. When the Contracting Officer determines that the ventilation is sufficient, replace all air conditioning and ventilation air filters. Readjust the building's equipment to the design settings and perform the start up steps required after such adjustments are made.
- B. In all work areas of a non-air conditioned new building, ventilate the building after completing construction and prior to occupancy. Perform ventilation as follows:
1. Notify the Contracting Officer prior to starting the ventilation work or immediately if any step cannot be successfully completed;
 2. Inspect areas adjacent to portable fans for the existence of or potential air containing odors. Eliminate the cause of any odor or potential odor;
 3. Open windows and doors (interior and exterior) for maximum ventilation of the work area. Use care to maintain security and to prevent infiltration of dirt, debris, dust, or impact on surrounding occupied areas. Maintain protection from the elements of weather, and site cleanliness;
 4. Turn on all of the available lights and heat producing equipment;
 5. Ventilate the work area using portable supply and exhaust fans capable of providing one complete work area air change per hour for 72 hours; and
 6. Continue the ventilation procedure beyond the 72 hours if the Contracting Officer determines it necessary. Provide additional exhaust fans if directed

by the Contracting Officer. Ventilation beyond 72 hours is considered additional work provided the Contractor followed the steps required in this paragraph 3.02 B.

7. When the Contracting Officer determines that the ventilation is sufficient, remove the portable equipment.

SPECIFIER'S NOTE: This paragraph may be removed for new facilities that do not have A/C systems interconnected with existing facilities.

- C. In all work areas in an existing building, ventilate the building after completing construction and prior to occupancy. Perform ventilation as follows:
 1. Use the steps in paragraph 3.02 A. when the work area is air conditioned by air handling equipment that can be completely isolated from all air conditioning and ventilation systems supplying occupied areas;
 2. Otherwise, use the steps in paragraph 3.02 B.

END OF SECTION