V3 BETA STANDARD

2023

Indoor Air Quality Policy

Indoor Air Quality Policy

Directions:

This document provides project teams with a policy that can be used as a template and adopted in full to comply with requirements of the Fitwel Indoor Air Quality Policy. Project teams can either use the exact content of this document to establish new policies, or update existing policies by adding any missing components from the below. Official policies must include policy implementation dates and be on company letterhead.

A qualifying Indoor Air Quality Policy must include all of the following:

SECTION 1: Implementation

A qualifying Indoor Air Quality Policy must apply to the following:

Use only the below implementation section relevant to the specific project:

MULTI-TENANT BASE BUILDING

Applies to on-going operations within all spaces under the control of building management within the building(s), including common elevator banks on tenant floors.

COMMERCIAL INTERIOR

Applies to on-going operations within all spaces under the control of the tenant.

SINGLE TENANT BUILDING

Applies to on-going operations within all spaces under the control of the tenant.

SINGLE TENANT RETAIL

Applies to on-going operations within all spaces under the control of the tenant.

MULTI-TENANT RETAIL

Applies to on-going operations within all spaces under the control of building management within the building(s), including common elevator banks on tenant floors.

MULTIFAMILY RESIDENTIAL

Applies to on-going operations within all spaces within the building(s).

SENIOR HOUSING

Applies to on-going operations within all spaces within the building(s).

SECTION 2: Source Control

☐ Management and Maintenance

- Source Control
  - Manage pollutant sources through all of the following:
    - Properly sealing doors, floors, and windows
    - Regularly checking for and eliminating mold OR ensuring IAQ parameters are not conducive to mold growth
    - Installing appliances so that they vent to the outside OR have continual ventilation
    - Diluting and removing pollutants through ventilation
  - Manage moisture through all of the following:
    - Using moisture tolerant materials in areas with high humidity and moisture, including kitchens, bathrooms, water closets, and maintenance rooms
    - Minimize cold gapping to prevent condensation and mold growth
    - Ensuring proper drainage
  - Implement a building-wide smoke-free policy and ensure that no smoking is allowed within 60-feet or 20-meters from all building entrances.
- Housekeeping
  - Detail best practices to improve the indoor air. Best practices may include:
    - Maintenance of interior plants (watering, pruning, and removal of dead or decaying plant matter etc.) where necessary to prevent mold growth
    - Regular disposal of garbage and other waste
    - Hygienic storage of garbage and other waste, including no open-top waste bins
    - Hygienic storage of foods, including refrigeration where necessary
    - Prohibiting products or other sources of harmful or bothersome odors and contaminants from spaces where cleaning chemicals are stored (such as utility rooms) from impacting air quality with permanently ventilated areas
- Training
  - Provide continuing education and training opportunities for those who operate and maintain the building air distribution systems, including:

    - Checking for mold.
    - Managing and monitoring air filters.
    - Checking air ducts.
    - Managing and checking the operations of the building's air system.
  - Provide best practices for air quality improvement with all occupants, as follows:
    - Checking for mold.
    - Managing and monitoring air filters.

SECTION 3: Ventilation and Filtration

☐ Assessment

- Consult with a certified HVAC expert to assess the HVAC system and identify the following:
  - Ventilation needs based on occupancy levels, as determined by ASHRAE 62.1 - 2019 or EN 16798-3:2017:Part 3, CIBSE Guide.
  - The air changes per hour, equivalent air changes per hour, or volume per floor area capacity based on the design of the ventilation system
  - Opportunities to increase the outdoor air supply, ensure dilution of CO2, and avoid over-ventilation.
  - Impacts of ventilation adjustments on energy use, thermal comfort, acoustic comfort, and maintenance needs
  - Filtration needs based on any recirculation of air, and applicable strategies for increasing air filtration grades needed according to outdoor air quality (such as Eurovent REC 4-23)

☐ Ventilation Enhancements

- Avoid the blockage of ventilation supplies, exhausts and other grills
- Demonstrate consideration of natural ventilation techniques where possible that take into account location, climate, and outdoor air quality, which can include any of the following:
  - Operable windows
  - Doors to the outside
  - Operable Skylights
  - Vents
  - Solar chimney
  - Wind Tower that can be closed during inclement weather conditions
  - Trickle ventilator with attenuation to natural ventilation openings in order to provide acoustic conditions as specified in ANSI S12.2
  - Other intentional strategies or devices in the building designed for ventilation through thermal, wind, or diffusion effects.
- For projects utilizing a natural ventilation system, align to the 2019 ASHRAE - ANSI standard where applicable.

- Detail regular ventilation for the building and ensure when operating and continuously occupied, the system meets one of the below as applicable to the building:

30% higher ventilation levels than those outlined in the relevant ASHRAE ANSI standard, as applicable to the building and space(s): • 62.1 - 2022: Commercial Buildings • 62.2 - 2022: Residential Buildings	OR	People Outdoor Air Rate (Rp): 10 L/s*person	OR	≥ 5 air changes per hour (ACH) in all applicable areas

☐ Filtration Enhancements

- Filtration for centralized recirculated air systems:
  - When spaces are continuously occupied, install MERV 8+ filters
- Filtration for outdoor air intake air systems:
  - When spaces are continuously occupied, install MERV 13+ filters or ensure implementation of one of the following filtration or air treatment approaches:

UVGI luminaires Upper Room UVGI: ASHRAE GPC37: Guideline for the application of Upper Air (Upper Room) Ultraviolet Germicidal UV-C Devices to Control the Transmission of Airborne Microorganisms or ANSI/IES RP-44-21 Ultraviolet Germicidal Irradiation (UVGI)	OR	UV-C in ducts or air handling units UV-C: ASHRAE standard 185.1: method of testing UV-C lights for us in Air Handling Units of Air Ducts to Inactivate Airborne Microorganisms	OR	Mobile Filtration Units or portable air cleaners • Units should be placed where air intake and discharge are not impeded • Devices may include any or combinations of air cleaning technologies (filters, sorbents, UVGI systems, etc.) • Manufacturer instructions should be used to guide placement and ensure devices are appropriately sized for the space in which they will be used, based on CADR.

☐ Infection Risk Management Mode

- Operational systems must have the capacity to align with ASHRAE Standard 241 during contagious disease outbreaks, as defined by the national, regional, and/or local public health authority.

☐ Maintenance

- Describe a plan for regular maintenance of ventilation and filtration systems that is reviewed annually that includes the following:
  - Inspection of HVAC system and peripheral devices to check efficiency, air balance, filter status, and status of the mechanical systems
  - Replacement of filters and any worn or non-functioning parts as needed
  - Cleaning evaporators and condensers
  - Removals of standing water from drain pans
- Establish a notification system that allows building occupants to alert building management of potential indoor air quality issues
- Assign specific departments and/or personnel responsible for completing the above tasks
- Close off any gaps around air filters to minimize air moving around them instead of through them by measuring air drops to ensure filters are within their tolerance
- Inspection of upper room UVGI equipment to check performance and status of the germicidal irradiation systems by measuring radiance levels at least every 6 months

☐ HVAC Operations

- HVAC system operations for the building must:
  - be run during all occupied hours to ensure clean air enters and is distributed throughout the building
  - be run at a reduced ventilation rate of 0.3l/s/m3 (or 1 Air change/hour) for 1 hour ahead of operational hours to flush out contaminants

SECTION 4: Humidity Control

☐ Include strategies for controlling the relative humidity (RH), such as:

- prevent infiltration by meeting one of the following:
  - sealing any cracks and gaps around windows, doors, lighting fixtures or any other areas
  - pressure testing near windows, doors, and light fixtures to limit infiltration
- ensure pipe insulation meets requirements established in ASHRAE ANSI 90.1 - 2019 or BS 5422:2009.

☐ Outline strategies for microbe and mold control in applicable areas, such as:

- regular inspections for condensation, water damage, and mold growth indoors OR monitor moisture and condensation levels outdoors
- notification system to report mold or water damage
- use of mold-resistant materials
- support air flow with ventilation within all wet areas and areas susceptible to moisture

- implement protocol for drying any damp areas and fixing any leaks within 24 to 48 hours that includes:
  - A system for tenants or residents to report wetness or leaks within the building.
  - A protocol for building management to respond to all reports and discoveries of wetness or leaks within the building.

SECTION 5: Managing Closures

☐ Ensure that in the event of closure of 2 weeks or more, the following steps are completed before re-occupancy:

- Establish a temperature set point to ensure building does not drop below 55 F and does not go above 86 F (or 13 C to 30 C).
- The building will be assessed for mold, excess moisture, and stagnant water, and any identified issues will be remediated.
- If the HVAC system has not been active for 2 weeks or more, it should be operated for 48 - 72 hours to "flush out" the system and ensure the following:
  - After the "flush out" period, filters should be examined and replaced if necessary.
  - If odors are detected during the "flush out" period identify the source, and remediate any residual mold.
- Develop a schedule for weekly inspection of the HVAC system for the first month of occupancy. These inspections can be gradually reduced to monthly or quarterly depending on the system's maintenance needs.
- Assess inlet plenums to ensure the vermin screen is clear of debris and no pooling of water has occurred within the plenum.
- Check pre filters should for any visible signs of wetting and mold growth on the cardboard frame.
- Evaluate all internal surfaces of AHU sections and internal surfaces of ventilation system ductwork through one of the following:
  - check for any visible signs of bacterial growth, including visible presence of mold or surfaces that are wet or slimy to the touch.
  - implement microbial surface sampling within AHU.
- Clean all cooling coils.
- Assess the base of cooling coils, drainage trays and glass traps for visible bacterial contamination, including visible presence of build up on water surface or internal surfaces that are wet or slimy to the touch.
- If a wet humidification system is installed, properly clean and recommission without fail prior to being put back into operation to ensure reenergized spores are not pumped into the airflow.
- If a system has been off for a longer period of time (6 weeks+), implement a full Ventilation Hygiene Risk Assessment that includes dust and microbial sampling of the internal surfaces of the ductwork.

SECTION 6: Procurement

☐ Ensures that all new products and materials procured within the project meet the required thresholds from at least five of the product categories below:

- 1. Materials
  - For each product category selected, ensure products and materials are either naturally low-emitting products (stones, ceramics, concrete, untreated solid wood) or meet the applicable certification and testing standards below:
    - Interior Insulation: 100% of insulation
    - Flooring Systems: 100% of all systems
    - Ceiling Systems: 90% of systems by square feet or meters
    - Wall Paneling: 100% of all paneling including, but not limited to interior wall assemblies, gypsum board, doors, frames, wall coverings, window systems, and interior surfaces of exterior walls)
    - Paints and Coatings: 90% by volume for emissions and 100% for VOC content of paints and coatings applied on-site and used on the interior of the air barrier
    - Adhesives and Sealants: 90% by volume for emissions and 100% for VOC of adhesives and sealants applied on-site and used on the interior of the air barrier.
    - Furniture: 90% by cost of furniture
    - Composite Wood: 100% of composite wood for cabinetry, excluding flooring, ceiling, wall panels, or furniture.
- 2. Materials Transparency
  - For 50% of products or 25 distinct permanently installed products (including flooring, insulation, wet-applied products, ceiling and wall assemblies and systems, as well as other product types listed in this section), provide a publicly disclosed list of materials by the manufacturer, a disclosure organization or a third party through one of the following:
    - ANSI/BIFMA e3 Furniture Sustainability Standard: at least 3 points under either 7.5.1.3 Advanced Level in e3-2014 or 7.4.1.3 Advanced Level in e3-2012
    - Declare label by the International Living Future Institute
    - Health Product Declaration (HPD) published in the HPD Public Repository, or an Environmental Product Declaration (EPD) published in the EPD Public Library
    - Cradle-to-Cradle Certified product, or a product with a Material Health Certificate from the Cradle to Cradle Products Innovation Institute
    - Product Lens Certification by UL
    - Product Health Declaration by Global Green Tag
    - A manufacturer's inventory containing CAS numbers of all individual compounds down to 1,000 ppm (0.1%). If the product contains a trade secret compound, GHS hazards of category 1 or 2 are listed and a concentration range is provided for each undisclosed component.
- 3. Gas Stoves within Residential Projects
  - Prohibit the purchase of new gas stoves and ovens within residential projects.

☐ Accepted certification and testing standards:

- Certified to UL GREENGUARD Gold (accepted for all categories' VOC emission requirements except Composite Wood)
- California Department of Public Health Standard Method V1.2 2017 (accepted for all categories' VOC emission requirements except Furniture and Composite Wood)
- California Air Resources Board (CARB) 2007 Suggested Control Measure (SCM) for Architectural Coatings (accepted for Paints and Coatings VOC content requirements)
- California Air Resources Board (CARB) requirements for ultra-low-emitting formaldehyde (ULEF) resins or no-added formaldehyde based resins (Accepted for Composite Wood)
- South Coast Air Quality Management District SCAQMD Rule 1113 (accepted for Paints and Coatings VOC content requirements)
- South Coast Air Quality Management District SCAQMD Rule 1168 (accepted for Adhesives and Sealants VOC content requirements)
- ANSI/BIFMA e3 2019 credits 7.6.1, 7.6.2, and 7.6.3 (accepted for Furniture)
- EPA TSCA Title VI for ultra-low-emitting formaldehyde (ULEF) resins or no added formaldehyde resins (NAF) (accepted for Composite Wood)
- AgBB Testing and Evaluation Scheme 2010 (accepted for all categories' VOC emissions requirements except Furniture)
- EN16402 (accepted for Paints and Coatings VOC content requirements)
- EN13999 (Parts 1-4) (accepted for Adhesives and Sealants VOC content requirements)
- Green Star – Interiors v1.2 credit 12 for Indoor Pollutants to show compliance with low-emitting materials (accepted for Paints and Coatings, Adhesives and Sealants, and Composite Wood)
- European Decopaint Directive (2004/42/EC) (accepted for Paints and Coatings, Adhesives and Sealants VOC content requirements)
- Canadian VOC Concentration Limits for Architectural Coatings (accepted for Paints and Coatings, Adhesives and Sealants VOC content requirements)
- Hong Kong Air Pollution Control (VOC) Regulation (accepted for Paints and Coatings, Adhesives and Sealants VOC content requirements)
- EU Directive 2004/42/CE "Paints Directive" (accepted for Paints)
- EN 13986 (accepted for Wood Paneling)
- 14080:2005 (accepted for Timber)
- EN 14342:2005 (accepted for Wood Flooring)
- EN 14041:2004 (accepted for Floor Coverings)
- EN 13964:2004 (accepted for Ceilings)
- EN 13999-1 (accepted for Floor Adhesive)
- EN 233:1999, EN 234:1997, or EN 259-1:2001(accepted for Wall Coverings)

SECTION 7: On-going Construction and Renovations

☐ Includes a plan for managing indoor air quality during any construction and major renovations and prior to occupancy. The plan must at a minimum control for the following categories:

- Moisture, such as:
  - storing all absorbent products and materials separately in areas that are protected from dust and moisture.
  - avoiding enclosing wet materials during construction.
- Particulates, such as:
  - protecting permanently installed ventilation systems during construction
  - employing entryway systems at all construction site entrances and exits
- VOCs, such as:
  - storing VOCs separately from absorbent products and materials
  - installing all possible paints/coatings and adhesives and sealants prior to absorbent products and materials
- Outdoor emissions:
  - Developing a plan to protect occupied spaces from outdoor fumes generated by construction activities.
- Tobacco, such as:
  - prohibiting smoking within the construction site
  - Prohibiting smoking within 65 feet or 20 meters of building entrance and ventilation openings
- Ensuring that construction crews wear protective masks to protect workers from harmful chemicals used during construction and renovations, such as paints, spray foams, and other harmful materials.