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MERV 13 AIR FILTERS IN BUILDINGS
is
CALIFORNIA CODE MIN. REQUIREMENT

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Need for Improved Filtration

- **Increased Concern Over Fine Particulate Matter**
  - **Of Special Risk are Inhalable Particles Less than 2.5 Microns ($PM_{2.5}$) that Can Lodge Deep into Lungs – Similar to Asbestos**
  - **Comparatively, Human Hair averages 100 microns in thickness**

- **Example Sources of $PM_{2.5}$ Matter**
  - **Motor Vehicle Tailpipe Emissions**
  - **Tire and Brake Residue from Cars and Trucks**
  - **Windblown Dust**
  - **Forest Fires**
  - **Tobacco Smoke**
  - **Industrial Emissions**

- **$PM_{2.5}$ is Measured by Agencies such as BAAQMD, e.g., Spare the Air**

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CA Title 24 Energy Code Language for Building Air Filtration (Since 2019)

- **Code Applies to All Systems Supplying Air to Occupiable Spaces through Ductwork Exceeding 10 ft in Length.**
  - **This allows Unducted A/C Units to be Excluded from the Req'mt**
- **MERV 13 or Better Air Filtration**
  - **Efficiency of 85% or Better on Particles Between 1 – 3 Microns**
- **Air Filters Need to Meet One of the Following to Minimize Filters Resistance to Airflow:**
  - **Nominal 2-inch Minimum Depth Filter(s); or**
  - **Nominal 1-inch Min. Depth, but Max. Face Velocity can't exceed 150 ft/min.**
    - **This Would Effectively Double Normally Sized Equipment, So use the Former Option Above – Min. 2" Deep Filters**

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MERV 13+ Filtration Recommended for COVID-19 Mitigation

- CDC and ASHRAE Recommend MERV 13 Min. Filtration to Reduce Concentrations of the SARS COV-2 Virus.
  - While the Virus itself is less than 0.1 Micron in Size, it is Emitted in Aerosol particles that are typically less than 5 Microns.
  - The SARS COV-2 Virus Has Short Duration Survivability When Out of its Host. This Allows Changing Air Filters while Applying Relatively Minor Protection of Maintenance Personnel – Gloves, Masks, Etc..

- Ventilation Rates as Required by the Current Version of ASHRAE's Standard 62 (National Ventilation Standard) are also Recommended.
  - Code Ventilation Rates in California are based on the above ASHRAE Standard.