Laboratory Air Ventilation – Basic Hood Requirements

- There shall be no return of fume hood and laboratory exhaust back into the building.

- General laboratories shall have a minimum of 6-air changes/hour and should have at least 10 air changes per hour when occupied.

- Laboratory fume hoods shall provide a minimum average effective face velocity of 100 feet per minute (fpm), with a minimum of 70 fpm at any point.

- Duct velocity (discharge to stack) 1000-2000 fpm.

- An adequate supply of make up air (90% of exhaust) should be provided to the lab.

- Fume hoods should not be located adjacent to a single means of access to an exit.

- The exhaust fan should be acid resistant and spark-resistant. The exhaust fan motor should not be located within the duct work. Drive belts should not be located inside the duct work.

- Hood exhaust stacks shall extend at least 7 feet above the roof. Discharge shall be directed vertically upward.

- Hood exhausts shall be located on the roof as far away from air intakes as possible to preclude re-circulation of laboratory hood emissions within a building.

- General: Consider the following factors when selecting fume hood:

    1. Room size (length x width x height)
    2. Number of room air changes
    3. Lab heat load
    4. Types of materials used
    5. Linear feet of hood needed based on:
        - number of users/hood (Rule of thumb: 6 linear feet per worker.)
        - frequency of use
        - % of time working at hood
        - size of apparatus to be used in hood, etc.