

STRATEGIES TO REDUCE COVID-19 EXPOSURE IN EDUCATIONAL FACILITIES



The following strategies have been shown to reduce the transmission of infectious diseases through airborne particles. While many technologies claim to increase occupant health and safety, those listed below have solid evidence to support a substantial value addition to your educational facilities, especially as campuses prepare to reopen in the Fall of 2020.

Implementing these strategies have minimal upfront costs, but these minor additions can be highly leveraged for the health and safety of students, faculty, and employees. Often, these costs are only a fraction of a percent of the entire construction cost of the buildings. In addition, this investment has a high return by increasing productivity and health of building occupants. While the future cannot be predicted, it is likely that national standards will be updated in the wake of this pandemic to include or confirm the use of these technologies in general facility practices.



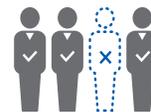
HIGHER
PRODUCTIVITY



INSTILL
STUDENT AND PARENT
CONFIDENCE



LOWER
HEALTHCARE
COSTS



REDUCED
ABSENTEEISM



INCREASED
ENROLLMENT

Increased Mechanical Filtration Efficiency

There is significant evidence of health benefits for higher filtration strategies

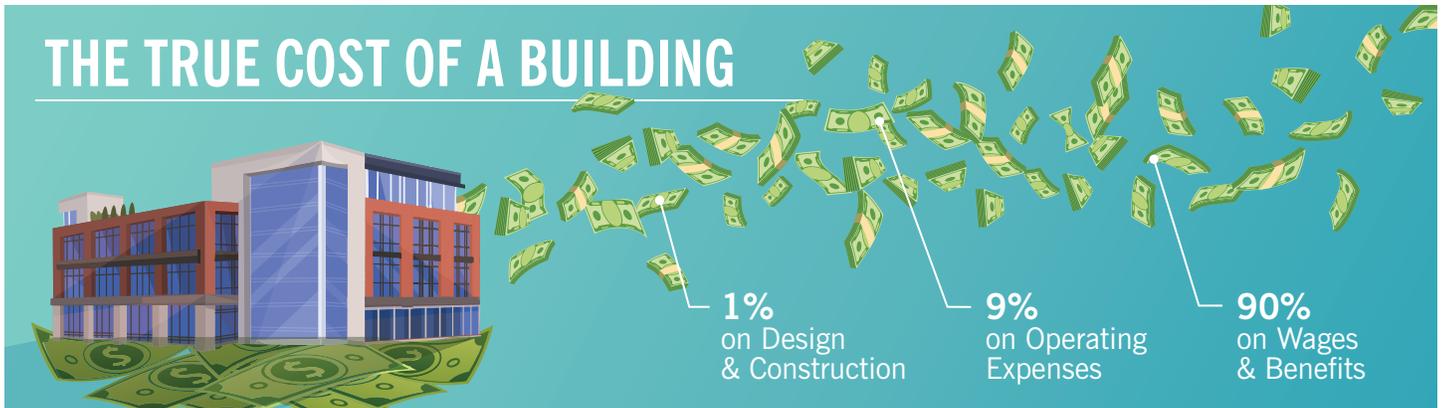
ASHRAE Standard 62.1 requires minimum MERV 8 filters for educational buildings.

- Option 1: MERV 13
 - Proven to reduce risk of infectious diseases
 - LEED credit
 - Established industry efficiency rating standard
- Option 2: Electronic Filters
 - Reduces operational cost
 - Potential to reduce risk of infectious diseases
 - No efficiency rating standard

Ultraviolet Germicidal Irradiation (UVGI)

UVGI disinfection has been proven to be highly effective in inactivating microorganisms.

- Option 1: Coils and drain pans
 - Mold often grows on cooling coils in HVAC systems due to moisture condensation and can be reintroduced into the building's indoor air. Installing UV lamps near coils and drain pans can significantly improve the air supplied by the HVAC system.
- Option 2: In-duct airstream disinfection
 - In-duct UVGA system is more effective than UVGI coil disinfection, but constructability and cost limit its application.



Humidification

Latest research shows decrease in infections

- Include humidifiers that target a minimum 40% relative humidity
- Dry air can create opportunities for pathogens to spread rapidly in mechanically ventilated spaces
- Research has shown humidification during the winter reduces number of influenza infections in schools, nursing homes
- In operating rooms, it creates a more sterile environment

Airflow Best Practices

Engineering review can help improve prevention efforts

- Increased ventilation dilutes the pollutants in the space and provides better IAQ
- Limit air flowing from lower quality air areas into higher quality air areas
- Slightly pressurize spaces adjacent to lobbies or high traffic areas to limit contaminants migrating from high traffic areas to other spaces

Promising Technologies

Other technologies, such as bipolar ionization and photocatalytic oxidation, are available. TDIndustries is ready to discuss these alternative innovations as well, and ways to implement them for potential benefit.

As always, TD's Facilities Team and 20-plus professional engineers are ready to collaborate and solve complex, fast-track issues with you and your operations team. By implementing these strategies in light of COVID-19, TDIndustries believes it has the personnel and resources needed to provide the safest environment possible for each student, employee, and visitor on educational campuses.

For more information, contact Ryan Brence at Ryan.Brence@TDIndustries.com or 972-743-9631.

Let Us Help Protect Your Campus

