

## **Ventilation In Lethbridge School Division Buildings**

Lethbridge School Division makes the health and safety of staff and students our top priority. The Mechanical Ventilation Systems in the buildings are designed to bring in fresh air from outside into building spaces and rooms and extract air from those same spaces and rooms. The design of mechanical systems for ventilation is completed by a Mechanical Engineer and based on the ASHRAE standards. ASHRAE is the American Society of Heating, Refrigerating and Air-Conditioning Engineers and is an American professional association seeking to advance heating, ventilation, air conditioning and refrigeration systems design and construction. This group has professional members in more than 132 countries and is also the standard of design that is used in Canada.

Lethbridge School Division building Mechanical Ventilation Systems use pleated air filters that remove dust, pollen, mold, bacteria, and airborne particles. There are several kinds of filters that are used in the buildings to filter the air. A HEPA filter is an acronym for "high efficiency particulate air [filter]" (as officially defined by the U.S. Department of Energy). This is a word that has come to mean good quality. However, a better measure for the effectiveness of a filters is its Minimum Efficiency Reporting Values, or MERVs, that is a filter's ability to capture air borne particles of sizes between 0.3 and 10 microns ( $\mu\text{m}$ ) as an example. All Lethbridge School Division systems use high quality MERV filters of various types depending on the air systems machinery requirements and specifications. We always match the filters to the design of the equipment to ensure proper functioning of the system. Putting filters that do not meet the flow rating of the machinery will end up staving the ventilation system of clean outside air and cause worse indoor air quality as insufficient clean outside air is not delivered to the classrooms.

The Division has spent approximately \$5.7 million of Infrastructure Maintenance and Renewal (IMR) and Capital Maintenance and Renewal (CMR) funding over the last five years to upgrade ventilation systems.

All air systems also require periodic cleaning and filter replacement to function properly and provide the best quality of air. Lethbridge School Division follows the manufacturer's recommendations on maintenance and replacement as well instituting physically cleaning of duct systems. We replace the filters approximately every 3 months and clean the ducting on a rotational basis during the summer when there are no occupants in the buildings. Lethbridge School Division utilizes a Building Management System to monitor ventilation systems to ensure they are functioning properly on a day-to-day basis and has a HVAC Technician that monitors and routinely checks systems as well as school caretaking staff who check daily for any concerns that need to be addressed. All these measures form part of Lethbridge School Division's commitment to safe building environments for our students and staff.

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