

CASE STUDY 4 THE BUSCH STUDENT CENTER

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PURAFIL PROVIDES THE ENERSAVE PROGRAM 4 THE BUSCH STUDENT CENTER AT ST. LOUIS UNIVERSITY



ABOUT THE BUSCH STUDENT CENTER

Since 1967 the Busch Memorial Center, located in the heart of the campus at 20 North Grand Boulevard, has been the core of St. Louis University, serving numerous students and visitors. After nearly four decades of use, an extreme renovation was needed to modernize and expand the facility. A larger, more comfortable place was needed for students and visitors to socialize and relax.

THE PROBLEM

In May 2001 the St. Louis University board of trustees approved a proposal for the renovation and expansion of the Busch Memorial Center into a modern student and alumni center. Renamed the Busch Student Center, the expanded building would be large enough to host major events and provide a central point for campus extracurricular activities.

Construction on the 42,000-square-foot design-build expansion and 110,000-square-foot renovation began in June 2002. All three floors of the existing student center were renovated, and a two-story section was added on the west side. The Busch Student Center now features 20,000-square-feet of conference center meeting space, breakout facilities and a ballroom large enough to host concerts, small theatrical productions and dinner parties.

Part of renovating the student center into a state-of-the-art facility included upgrading the HVAC systems. The challenge was making the building more efficient (conserving energy) while also maintaining indoor air quality per ASHRAE standards.

PURAFIL PROVIDES THE SOLUTION

According to the Department of Energy, space conditioning – heating, cooling, and ventilation – represents the single largest energy use in buildings. Fortunately, ASHRAE Standard 62, Ventilation for Acceptable Indoor Air Quality, addresses the need to conserve energy and permits the use of innovative ventilation practices.

Prior to implementing Enersave, the Busch Student Center used the Ventilation Rate Procedure (VR) to provide adequate space conditioning for its occupants. While much attention has been given to the VR Procedure, the less known Indoor Air Quality (IAQ) Procedure is a more valuable tool in balancing IAQ and energy consumption. The VR Procedure allows for outdoor air to be used to dilute indoor pollutants and sets the minimum rate at 15 to 20 cfm per person. However, flushing the indoor environment is only an indirect solution for improving IAQ (assuming the outdoor air is of acceptable quality), and the subsequent demand in energy required to condition the outdoor air is far from cost efficient.

Alternatively, the IAQ Procedure allows for a reduction in outdoor airflow rates, providing recirculation air is properly cleaned. The required recirculation rate can be determined based on contaminant concentrations, the efficiency of the air-cleaning system and other factors defined in the ASHRAE Standard. The IAQ procedure is intended to provide a direct solution for improving IAQ, while reducing HVAC system operating costs.

Mechanical contractors from Murphy Company asked local Purafil representative John Waites of Waites Company to help with the new building design in terms of energy usage. As an alternative to the VR Procedure, Waites Company implemented Enersave, an energy-savings program that reduces the need for outside air and still meets ASHRAE 62's IAQ requirements. Purafil's Enersave program is the result of 24 years of experience in troubleshooting IAQ problems and continued investments in product development. Based on the revised ASHRAE 62 standard, Purafil is able to provide the backup documentation necessary for compliance with the standard. Enersave is an all-inclusive program encompassing:

- Superior Purafil filtration
- ASHRAE 62 supporting documentation
- Monitoring for ongoing compliance with the standard

With the Enersave program, building owners can reduce the amount of outside air brought into the building for significant savings on energy and operational costs.

TABLE 1

TOTAL AREA (ft ²)	OCCUPANCY	SUPPLY AIR (cfm)	OUTSIDE AIR (cfm)	
			VR	IAQ
3,925	400	400	6,000	2,000



PURAFILTERS®

ONGOING SERVICES

Purafil offers several value-added services as part of Enersave. On a regular basis, representatives change out the Purafilters to monitor the installation. They also provide a documentation package that includes a report comparing the Purafilter's efficiency against each contaminant in each zone of the building.

As part of the Enersave program, Purafil also used Purafilters®, a combination chemical and particulate filter designed to replace existing particulate filters, thus eliminating additional costs. Purafil engineers are the first to successfully suspend sodium permanganate adsorbents in a bi-component fiber matrix. Chemical filtration systems utilizing sodium permanganate remove a broader range of contaminants than carbon-only filters and exhibit higher efficiencies. Because of the Purafilter's broad-spectrum removal capabilities, it is the only chemical filter capable of meeting the stringent requirements of ASHRAE 62's Indoor Air Quality (IAQ) Procedure.



CUSTOMER SATISFACTION

The Enersave program took just two months to implement, and St. Louis University was very pleased with the application. The school reduced outside air requirements while saving thousands of dollars on potential capital and operational costs.

Representatives from Murphy Company were also extremely satisfied with the results, and they plan to work with Purafil on upcoming projects.

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