

# CASE STUDY 4 THE VICTORIAN ARCHIVES



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## PURAFIL PROTECTS DOCUMENTS AND ARTIFACTS 4 THE VICTORIAN ARCHIVES



### ABOUT THE VICTORIAN ARCHIVES

Located on a main urban road, the Archives is the public records office for the local Victorian government and is also the federal government's official repository for all Commonwealth records dating back to 1901. The Archives houses Aboriginal Affairs records, World War I and World War II defense correspondence, internee files from World War II, dossiers of servicemen from the Boer War and other important pieces of the country's documentary heritage.

### THE PROBLEM

Archives are particularly vulnerable to poor indoor air quality (IAQ). Combustion exhaust from automobiles, emissions from nearby industrial facilities, and other kinds of outside air pollution are drawn inside through HVAC air intakes or by natural filtration.

If contaminant concentration levels surpass those recommended for preservation facilities, then valuable artifacts, documents, and other priceless collections can be permanently damaged. Fluctuations in temperature and relative humidity can also harm valuable collections. Papers turn yellow, metals corrode, and painted works of art fade.

Built in 2000, the Archives is a pristine, air-tight facility with highly controlled temperatures to protect the artifacts. Engineers working with the Archives specifically selected Purafil systems to maintain the cleanliness of the environment and protect its documents and artifacts from gaseous contaminants causing decay and discoloration. Local representative James McIntosh of Airepure Australia facilitated the engineers' request.

### PURAFIL PROVIDES THE SOLUTION

Over 20 insulated air handling units (AHUs) were custom built in the mechanical room to eliminate gaseous contaminants from outside intake air. The AHUs included 50% ASHRAE grade pre-filters and 220 Purafil filtration systems. Each Purafil filter contained Purafil's CP Blend dry-scrubbing media to eliminate a wide range of gases by transforming them into harmless solids.

The filter's V-shape design improved contaminant removal efficiency by lowering velocity within the media bed and increasing surface area. The low pressure drop and high sur-

face area of the bed increased contact time with gaseous contaminants, which resulted in efficient contaminant removal and minimized energy costs.

Purafil's OnGuard® Continuous Corrosion Transmitter (CCT) monitors were installed in the Archives to measure in real-time the amount of reactivity in the environment. According to room classifications for museums and archives, 90 Angstroms of buildup is a sound result; the CCTs in the Archives recorded just 10 Angstroms. Indoor conditions were controlled with immeasurable fluctuations in temperature and humidity.

### PURAFIL'S ONGUARD® CCT

The OnGuard® Continuous Corrosion Transmitter (CCT) measures in real-time the amount of corrosion forming on copper and silver surfaces and transmits this information to your building management system. The monitor logs cumulative or incremental data to detect and measure isolated, corrosion-causing events. All OnGuard CCT measurements can be related to ISA severity levels and potential effects on equipment reliability.



CORRIDOR WITHIN AUSTRALIA'S VICTORIAN ARCHIVES

A PURAFIL ONGUARD® CONTINUOUS CORROSION TRANSMITTER (CCT) IS VISIBLE WITHIN THE VICTORIAN ARCHIVES.

