

CASE STUDY 4

THE MOHAMED MAHMOUD KHALIL MUSEUM

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PURAFIL SAFEGUARDS FINE ARTS 4 THE MOHAMED MAHMOUD KHALIL MUSEUM



ABOUT THE MOHAMED MAHMOUD KHALIL MUSEUM

The Mohamed Mahmoud Khalil Museum, located in Giza, Egypt, houses the largest collection of fine arts in Africa and the Middle East. The museum, a palace before the owner's family donated it to the Egyptian Government, was used by former President Sadat as his official residence. The art collection is worth billions of dollars and requires constant protection from a polluted urban atmosphere, which consists of heavy traffic and industrial pollution.

THE PROBLEM

Gaseous pollution is primarily caused by the burning of automobile fuels. If these pollutants are drawn indoor through an HVAC system or by natural filtration, museum artifacts can be permanently damaged.

The main components of automotive exhaust are sulfur dioxide, nitrogen dioxide and ozone. Sulfur dioxide combines with moisture to form sulfur acid, which oxidizes metals and deteriorates organic-based materials. Similarly, nitrogen dioxide dissolves in water to form nitric acid which oxidizes metals and attacks calcareous stone and murals. In the presence of ozone, organic-based materials, such as paints, textiles, animal skins and paintings, will discolor and become brittle.

Recent tests indicated a high level of contaminants in the Mohamed Mahmoud Khalil Museum's surrounding area. These findings led architect Dr. Ali Raafat and Shaker Consulting Group, the leading consulting group in Egypt, to seek the highest quality air purification and monitoring systems available.

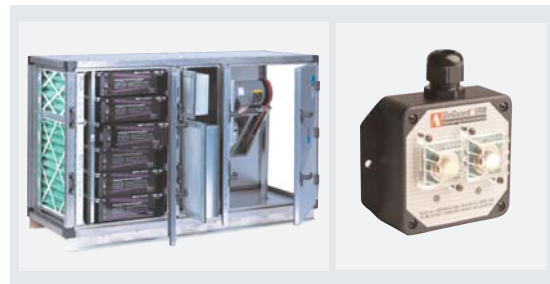
PURAFIL PROVIDES THE SOLUTION

The Egyptian Ministry of Fine Arts first utilized Purafil's technology when filtration systems were installed to preserve the priceless artifacts in the museum donated by the Mohamed Mahmoud Khalil family.

Purafil's Side Access System and OnGuard Monitor provide a safe haven for over 748 masterpieces, including works by Renoir, Van Gogh, Gauguin, Degas, and Monet.

Purafil's Side Access System filters return air of destructive gases and odors. The air handling system's 85% particulate filters ensure that the museum's interior is free of dust and other airborne contaminants.

Purafil's OnGuard Monitor provides continuous, real-time measurements of corrosion forming on copper and silver surfaces by gases present in the local environment. The rate of corrosion growth is an excellent indication of an environment's destructive potential. The OnGuard Monitor also measures the temperature and relative humidity of the environment, both of which can affect the reactivity rate of these metals.



PURAFIL® SIDE ACCESS SYSTEM

PURAFIL® ONGUARD ENVIRONMENTAL REACTIVITY MONITOR (ERM)

