Greenheck Project Profile

Istinye Park Shopping Mall

Istinye, Sariyer, Istanbul, Turkey

Engineering Consultant:
Birikim Muhendislik
Istanbul, Turkey

Consulting Engineers:
Boz Project Consulting
Istanbul, Turkey

Investor and Contractor:
Orjin Group & Dogus Group Joint Venture
Istanbul, Turkey

Greenheck Representative:
Air Trade Centre Turkey
Istanbul, Turkey

Istinye Park Shopping Mall is the most prestigious mall project ever built in Turkey.

The Challenge

- **Exhaust nearly 120,000 cfm of steam and grease-laden air generated from 31 different restaurants.**
- **Install multiple exhaust fans within a very small space on the roof.**
- **Exhaust large volumes of grease-laden air high above the building to prevent re-entry into the building through the supply air ventilation system.**

The most prestigious mall project ever built in Turkey, the Istinye Park Shopping Mall,was constructed at a cost of $250 million and opened on September 22, 2007.

The magnificent mall includes 300 shops, a huge IMAX theater complex and many restaurants and cafes located throughout the mall.

Many of the shops and restaurants represent some of the world's most famous and exclusive brands giving the Istinye Park Shopping Mall a luxurious, high class image.

Greenheck's Solution

Six Greenheck Vektor®-H Laboratory Exhaust Systems

The original ventilation design called for 22 centrifugal upblast exhaust fans to remove 117, 650 cfm (200,005 m3/hr) of grease laden air at static pressures up to 3 in. Wg. (750 Pa) from the food court restaurants. Centrifugal upblast exhaust fans are typically used for this application.

However, the space available on the Istinye Park mall roof for the kitchen ventilation system was too confining and did not provide adequate separation between the exhaust air and the fresh air supply system. There was concern that the air handling units would draw exhausted air back into the shopping mall exposing shoppers to the cooking odors and discomfort of smoky, greasy air.

To ensure that this didn't happen, 22 Greenheck Vektor®-H laboratory exhaust fans with high plume nozzles were installed on the roof within the confined space that was available. Vektor-H laboratory exhaust fans are designed to propel air hundreds of feet above a building.

Above - Greenheck's Vektor-H laboratory exhaust units. A total of six units were used for kitchen exhaust.

Although they are usually specified for removing hazardous or noxious fumes from laboratories, building owners around the world are using them more often to ensure that greasy, smokey exhaust air from kitchens is not recirculated back into the building. In this case, the 22 Vektor-H exhaust fans were used to dilute and exhaust cooking odors and smoke from all 31 restaurants high above the mall and away from the fresh air intake.

The Results

The Greenheck Vektor-H laboratory exhaust fans effectively remove the smoky, greasy air away from the mall preventing odors from re-entering the building. The project's mechanical contractor, consultant and mall management have been very pleased with how well the Vektor-H laboratory exhaust fans perform in this kitchen ventilation application. Managers at the mall say it is very easy to clean the fans every three months and easy to access parts for normal, routine maintenance.

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