



Study Tour to AAF Shah Alam

- submitted by Student Branch & Edited by Student Activities Chair

On the 22nd February 2008, the ASHRAE University Malaya Student Branch had organized a study tour to American Air Filter (AAF) Company in Shah Alam.

Upon arrival at AAF, the delegates were divided into 2 groups. One group started off with a power point slide show with the introduction of the Company. There, the CEO (a mechanical engineer graduated from University Malaya) interacted with the participants in a Question and Answer session. Many questions were answered by the CEO as the students are keen to find out the prospects of working in the HVAC and related industry.

Subsequently, AAF shared with the delegates on the various air-filter products such as primary, secondary and high-end filters. Air filter are very important component in an HVAC system, therefore suitable air filters in an HVAC system will protect building occupants from harmful pollutants in the atmosphere.

In general, air filter offers various efficiencies depending on different operating conditions and needs, ranging from 25% up to 99.99%. The high-end filters include a full range of High Efficiency Particulate Air- (HEPA), Ultra Low Penetration Air- (ULPA) and Poly Tetra Fluoro Ethylene (PTFE) Membrane Filters. They are used in clean-rooms and other applications. The scope of applications is unlimited and ranges from ultra-clean air for electronics and pharmaceutical manufacturing to preventing the spread of infection in hospitals and the protection of heating and cooling coils in air handling systems.

Later, the delegates were given a tour around the factory to learn about the manufacturing process of air filters. Different filtering media such as cotton, fiberglass, polyester, paper, and synthetic non-woven materials are used to produce an air filter. Hard paper board and steel are normally used as the frame. The participants also learned about the visual smoke test to determine whether an air filter is in good condition. Repairs on any defects are performed during the test in a dark room. Upon completion of the test, the air filters are then labeled with a unique serial number before packing by a machine.



The group was later brought into a clean-room (wearing clean-room attire to minimize the contamination to clean production environment) to witness the manufacturing of the high-end filters. Each high-end filter is factory scanned using laser to ensure leak-free operation as part of the quality assurance program. AAF offers a variety of efficiencies from 99.95% tested on $0.3\mu\text{m}$ particles to 99.999995% tested on $0.12\mu\text{m}$ particles on high-end filters.

The participants completed the factory tour at 12.30pm and gathered at the meeting room for further interaction and discussion. Many questions about the manufacturing process of air filter were posted by the participants. Various questions on internship training and job opportunity in AAF were asked by the participants too.

The study tour is a fruitful and valuable experience to the students as it forms part of their early exposure and knowledge in the field of HVAC.