

Technical Visit to SIRIM QAS International Electrical and Electronic Testing Facilities

ELECTRICAL ENGINEERING TECHNICAL DIVISION



reported by
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Consumers have rights and the body entrusted to safeguard the safety and efficiency of household electrical, electronic appliances and communication devices sold in Malaysia is SIRIM QAS International, a subsidiary of SIRIM Berhad.

The Electrical Engineering Technical Division (EETD) arranged a technical visit to the SIRIM QAS International facilities in Shah Alam, which was spread over two days (17 November and 15 December 2015). Only a section of the tests showed to the party is reported herein.

On the first day of the visit, SIRIM QAS International senior general manager, Puan Nur Fadhilah, gave the 16 IEM visitors an overview briefing. She clarified that while all household appliances sold must be certified by SIRIM QAS International, the regulatory institution under the law is Suruhanjaya Tenaga, Malaysia.

TESTING SERVICES

Three types of testing service are available:

1. Mandatory certification, which includes safety tests, performance tests and energy efficiency tests
2. Voluntary testing, which includes product conformity to manufacturer's requirement or national and international standards and
3. Market surveillance, which includes auditing the market for appliances already granted the SIRIM label.

VISIT TO DOMESTIC PRODUCT TESTING LAB

A test personnel explained that the lab was equipped to carry out tests on 34 types of household appliances such as boiler, washing machine, water heater, refrigerator, fan, oven, rice cooker, iron, and power tool. These appliances must pass the prescribed safety tests, according to IEC Standard 60335.

During the visit, the personnel demonstrated a temperature rise test on a refrigerator and an endurance test on a water heater. The personnel then performed the primary and secondary suspension tests on a ceiling fan while it was stationary and while in operation. The drop test on an iron was also conducted.

The group then proceeded to the air delivery room. This was where the air delivery performance of ceiling fans and standing electric fans were measured and compared against the electrical power consumed. This automated test was part of the performance and energy efficiency test.

The group was then visited the wiring accessories testing lab where the group saw how switches, wall plug and sockets were subjected to endurance testing through the continuous switching on and off of the appliances. The appliances were all rigged to test machines and test executions and result data gathering and analysis were all automated.

ENERGY EFFICIENCY LAB

During the second visit on 15 December, the group went to SIRIM QAS International Energy Efficiency Laboratory in Seksyen 16, Shah Alam.

Here, the tests conducted were to rate electrical appliances under the Energy Efficiency and Energy Labelling programme. In one of the test labs, the personnel demonstrated how household air conditioner performance was measured when the appliance was set to maintain specific temperature decreased within a specific air volume and then compared against the electrical power it consumed.

In the next test lab, refrigerator performance was measured where the appliance was set to maintain a specific internal temperature and then compared against the electrical power it consumed.

In another test lab, household lamps and ballast performances were measured. In a test equipment called integrating sphere, the total light radiation of lamps was measured and compared against the electrical power consumed. Test personnel also demonstrated how a photometer was used to measure the light intensity.

It was a good learning experience for the members who took part in the visit. SIRIM QAS International is the consumers' line of defence with regards to the safety of household electrical, electronic appliance and communication devices sold in Malaysia. ■