

# Q&A WITH THE ROOFING SPECIALIST FOR THE KL CONVENTION CENTRE

THE RECENTLY COMPLETED KL CONVENTION CENTRE FEATURES A DISTINCTIVE ARCHITECTURAL FORM THAT SHOWCASES AN EQUALLY DISTINCTIVE ROOFING SYSTEM. ARCHITECTURE MALAYSIA RECENTLY HAD THE OPPORTUNITY TO TALK WITH POON KUAN YOOI OF EUROPEAN PROFILES CONTRACTING SDN BHD, THE COMPANY RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE ROOFING SYSTEM FOR THE KL CONVENTION CENTRE.

**AM: What was your scope of involvement in the development of the KL Convention Centre?**

**Poon (PKY):** To design, supply and install the roofing system, gutters, Syfonic rainwater down pipes, and part of the fascia panels of the building. We took about a year to complete the project.

**AM: In what way was the roof design unique?**

**PKY:** No two roofs are the same in any part of the world. Each design is unique. You may see a resemblance, but they are never the same. It is a matter of how to overcome the technical difficulties in the building of a roof, which is important at the design stage.

**AM: What was the roofing system used and why?**

**VP:** The roofing system used on the Kuala Lumpur Convention Centre is a sandwich roof system with the outer skin in PvDF coated Aluminium in 'EUROZIP 25' Double Lock Standing Seam panels. This type of roofing system was chosen for the reason that aluminium is a flexible material that is able to achieve roof shapes of a difficult nature.

**AM: Could you elaborate further on the roofing system used for the KL Convention Centre?**

**PKY:** Basically, it is made up of different STC (sound transmission cohesion) values. The KL Convention Centre has ceilings that are quite high, so the reflection of sound into the building is less. The STC value requirement for the KL Convention Centre is more for the purpose of diffusing the sound of rain impact on the roof.

**AM: How did you achieve the STC value?**

**PKY:** We went for a physical test in UiTM, Bukit Raja, where we installed the entire system. But instead of installing an actual roof, we installed a wall system to simulate the test. Sound is caused

by vibration, so if a system has a slight gap, it will fail to diffuse sound effectively. As long as the gap is filled, and the roof is compact, there will be less vibration.

**AM: What are the primary components and layers that make up the roofing system?**

**PKY:** The primary components of the roof would be the underliner, which is the first skin from the bottom up, then comes the rockwool (we used Roxul Hardrock for the KL Convention Centre), the zed spacers, cemboard, and finally an aluminium skin on top.

**AM: What were some of the critical design objectives that had to be met for the roof solution?**

**PKY:** The most important factor for the design and construction of this roof was the interfacing of various areas, such as the valley gutters, the walls and the roof. Because the owners wanted an airtight building, we had to seal up every groove.

**AM: What was the insulation solution used for this project?**

**PKY:** We used Roxul's Hardrock rockwool insulation for the entire project.

**AM: What were the potential benefits in the use of the insulation materials for the roofing system?**

**PKY:** Hardrock was used because of its acoustic properties, fire safety features and compression resistance. When taking into account the criterion of the project, it offered more cost saving as a whole system. In terms of materials usage, world-wide standards were met.

**AM: Were there any significant technical highlights of the roof structure and**

**insulation materials used? What were some of the challenges?**

**PKY:** The building of the valley gutter was a challenge. The aluminium sheets were very long – they exceeded 30 metres. Ordinarily, aluminium sheets used are shorter because of the expansion factor. The major challenge was in the interfacing of the upper roof to the valley gutter because we had concerns that there could be too much water coming down from the sloping roof, hitting the valley gutter and the possibility of water seeping through.

The challenging part in the insulation was in the design and structuring of the roof, especially in the termination of corners. We paid particular attention to the finishing of the roofing system, ensuring that the corners were terminated properly so that problems will not arise in the future.

**AM: Where do you see the future of roofing systems in Malaysia?**

**PKY:** Based on current situation, there is not much development in roofing systems. Also, the many cost cutting measures being practised are affecting buildings features in Malaysia.

**AM: Are there any by-laws that specify usage of certain materials in order to meet the criterion in the building of a roof?**

**PKY:** Unfortunately, at this point of time, none.

**AM: Do you see that improving and why?**

**PKY:** Perhaps not at the moment, but there is a need to improve by-laws and regulations for building practices. The increasing urgency of energy efficiency issues in Malaysia could act as a catalyst in improving the roofing systems for the future.

