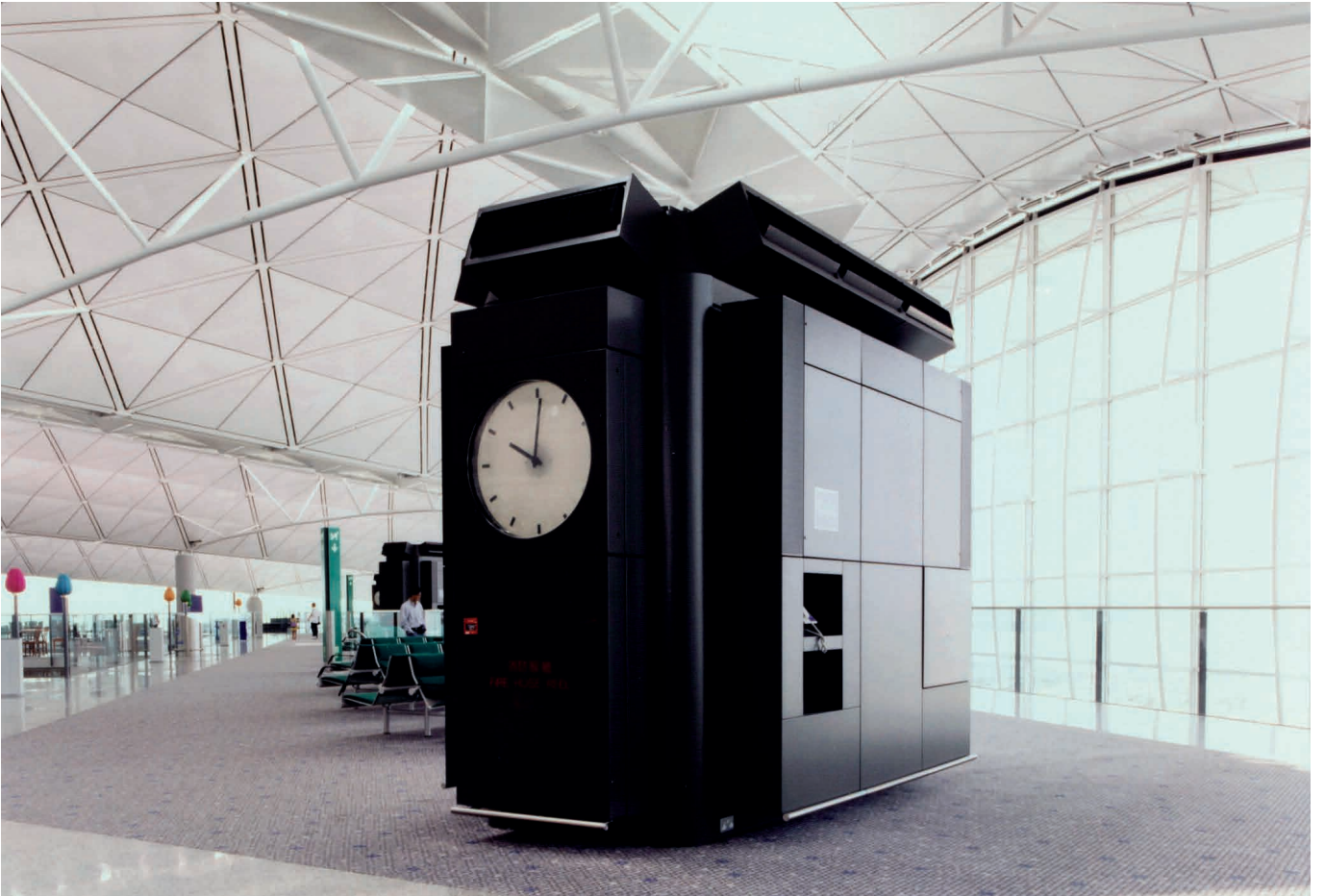
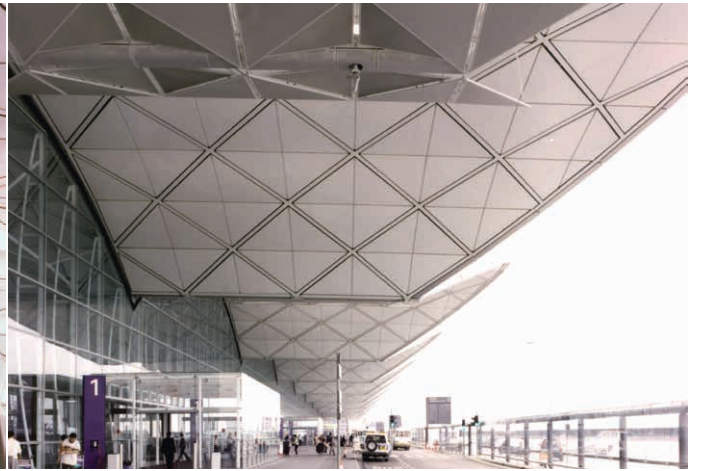
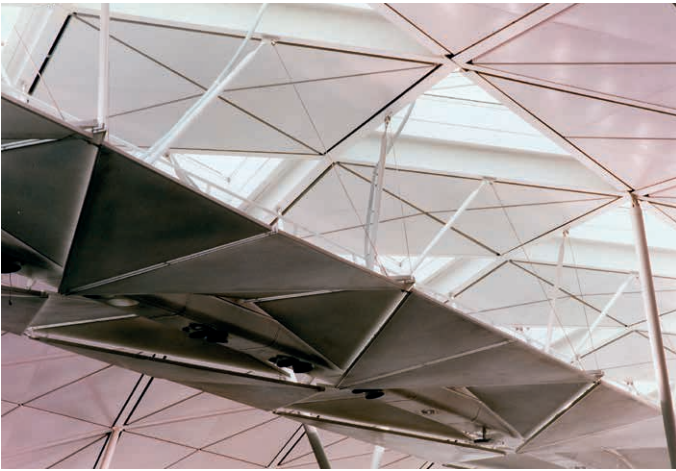




Chek Lap Kok,
Airport, Hong Kong



SAS Architectural metalwork solutions for Chek Lap Kok Airport

Chek Lap Kok is one of the world's largest airports and was among the most ambitious construction projects of modern times. The terminal building extends a concept pioneered at Stansted Airport. With its uncluttered spaces, bathed in light, it forms a spectacular gateway to the city. The airport covers 12.48km² of reclaimed land between the two islands of Chek Lap Kok and Lam Chau. The airport increased the land area of Hong Kong by 1%. The airport opened for business in July 1998 taking six years to build.

Vaulted Ceilings

The SAS ceiling at Chek Lap Kok International Airport, born out of the Stansted experience, is a very functional and practical engineering solution to the Foster and Partners design requirements.

The roof structure is constructed from a series of 'T' beams connected at nodes points forming parallelograms. Approximately 78,000 triangular panels were supplied to the project pre-engineered allowing them to be simply fixed to the structure on site. A surface area of approximately 160,000m².

The perforated and plain edge panels are manufactured from aluminium with a 25 year anti corrosion guarantee electrostatic polyester powder finish. The concealed fixing system allows the panels to individually hinge down for void access. 14,000m² of panels used on the exterior of the building were specially designed to withstand extreme weather conditions including force 14 typhoons. These panels were manufactured from 3mm aluminium with a PVF2 paint finish.

The design of the roof structure rises and falls along the length of the terminal building achieved by cranking the angle of the roof at the 36 metre modular junctions, Over 3,500 unique special panels were required to

accommodate these subtle variants in the structure.

SAS supplied 4km of valley panels as an infill between each vaulted bay. Approximately 1,000 different size panels were used many of which are tapered to accommodate the design of the structural metalwork.

Daylight Reflectors & Service Gantries

Without a doubt one of the key visual impacts of the terminal building is the daylight reflector. Being in excess of 4 kilometres long and with a width of 6 metres it represents approximately 27,000m² of 3mm thick aluminium cladding in a triangular formation with perforated panels of sizes not previously manufactured by any other cladding supplier. The daylight reflectors also act as service gantries to facilitate maintenance of the lighting systems, loudspeakers, CCTV, smoke/ fire detection and other services.

Binnacles

The binnacles design solution contains a multitude of services for the airport building. Their primary function is to house air conditioning supply ducts and accommodate signage, break glass units, FIDS monitors, speakers, hose reels, fire hydrants, power sockets, clocks, internal and public telephones.

There are 202 binnacles of 34 different sizes. Whilst most are floor standing, four 12m high binnacles are wall mounted supported by cantilevered steelwork. 12,000m² of panelling is manufactured from 1.6mm galvanised steel polyester powder coated to RAL7022 with a composite backing material to achieve the acoustic and impact resistance requirements.

The engineering complexity of these binnacles supporting a host of different services all of which must be readily accessible means each unit has approximately 600 different parts.



Project Name
Chek Lap Kok Airport

Client
Hong Kong Airport Authority

Architect
Foster & Partners

Main Contractor
BCJ Joint Venture

System
Vaulted Ceilings, Daylight Reflectors, Service Gantries, Binnacles and Wall Cladding

Area m²
172,000

Location
Hong Kong

Completion Date
1998



metal ceilings | partitioning | doors | room comfort | architectural metalwork

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