

Inchon Airport, Korea Lift of Seven Roof Trusses

Main Contractor: Hanjin Engineering & Construction Co. Ltd.



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Above: The largest truss, weighing 1250 tonnes, in it's final lift position.



Above: An artists impression of the airport, the seven trusses form part of the main building with the raised centre section.

Right: The 5 temporary support towers, during the largest truss lift. Mounted on towers 1 and 5 are paired L180 jacks, with a single L180 on tower 3. Towers 2 and 4 have a single L300 on each.

Fagioli PSC Ltd. were awarded the contract to lift seven roof trusses during construction of Incheon Airport. One truss weighed 1250 tonnes with a width of 55 metres and a span of 90 metres. The other six weighed 850 tonnes each with a width of 45 metres and a span of 90 metres. The largest truss was lifted on 14 points to 15 metres above ground whilst the other six, 850 tonne trusses were each lifted on 10 points to 10 metres above ground.

The construction method for all of the trusses involved a five tower temporary support structures placed towards the end of each truss, and passing through the truss steelwork to the ground.

The six smaller trusses were lifted using ten Fagioli PSC L180 Strand Jacks, whilst the largest truss used a combination of six L180 and four L300 Strand Jacks.

A major feature of the Fagioli PSC jacking system is that even with differing capacity strand jacks working together, the internal hydraulics of the jacking system automatically achieves total synchronisation of the lift.

