

Aircraft Support Industries (ASI) announces the completion of the Maintenance Hangar Complex for Nagaworld, Cambodia

In 2014 Aircraft Support Industries was contracted by Nagaworld Ltd, Cambodia to design and construct a light Maintenance Hangar under international building standards to meet their unique operational business model.

The 5-star Hangar Facility was successfully completed by ASI in 2016 and consists of a multi-story 25m airside frontage x 45m deep FBO building, and a 100m span x 45m deep stressed arch clear span light maintenance hangar accommodating a fleet of corporate and business jets up to and including Airbus A320 aircraft.

ASI's proprietary and unique stressed arch hangar design which is unrivalled in providing the most cost-effective steel structure for large clear spans. The facility features the vertical lift doors allowing flexible, fast and well-sealed protection from the weather whilst providing the ability to fully open the entire hangar span. The facility is NFPA409 compliant the internationally recognized standard for fire protection of hangars.

THE STRESSED ARCH BUILDING SYSTEM DESIGN

The Stressed Arch structure was fabricated in Ho Chi Minh City, trucked across the border to Phnom Penh, and bolted together on site, supported at low level by scaffold towers. ASI Heavy Lift was engaged to carry out the stress-erection roof lift utilizing their state-of-the-art jacking equipment and monitoring systems. Following standard lift-off procedure the day before to clear the structure from the scaffold towers, the full stress-erection was undertaken within 2 hours on the morning of the 28th September, in front of a large and captivated audience of VIP's and other invited guests. The stress-erected structure was lifted from its at-assembly shape of 110m span x 11m height, to its final erected and curved arch configuration of 100m span x 24m apex height.

Aircraft Support Industries (ASI), part of the ASI Global group of companies, is a highly specialised engineering and construction firm operating predominantly in the aviation sector, designing and constructing aircraft maintenance facilities and large clear span steel structures worldwide. ASI have designed and built large span facilities in regions including Australasia, South East Asia, Asia, Middle East, Africa and North America.



Researched and developed since the mid-1980's, the Stressed Arch Building System is a patented method for constructing large clear span buildings utilizing the combined benefits of the *steel truss*, the *arch*, and *high strength steel stressing tendons*. The construction of a



Stressed Arch building involves a unique erection process in which the steel trussed frames are assembled close to ground level in a "flat" position. Using the stressing tendons, the building is "stress-erected" into the final arch shaped configuration typical of the Stressed Arch building. The erection process results in a unique set of structurally favorable conditions imposed on certain members of the Stressed Arch frames, and the building's overall load carrying characteristics.

The resulting purpose designed clear span buildings are suitable for aircraft hangars, bulk storage, warehouses, sports and recreation facilities and, in fact, anywhere there is a requirement for cost effective column free covered space. ASI's website provides further information and numerous examples of buildings completed, which number upwards of 100 buildings worldwide.



Hangar Exterior completion in August 2016



Stressed Arch Roof Interior



Business Jet - Fixed Base of Operations (FBO) Exterior



ABOUT NAGAWORLD

Nagaworld, Phnom Penh is the first and best-in-class integrated Hotel, entertainment complex in fast-emerging Cambodia owned by holding company – NagaCorp, listed on the Hong Kong Stock Exchange. Nagaworld is recognized as the finest integrated casino-hotel in Indochina, rivalling top Southeast Asian and world-renowned casinos. Nagaworld is situated in Phnom Penh, which is the capital and largest city in Cambodia.

ABOUT AIRCRAFT SUPPORT INDUSTRIES

Aircraft Support Industries Group (ASI) is today a world leader in the design and construction of Aircraft Maintenance Facilities having designed and built over 80 hangar facilities worldwide. The Company has the in-house expertise in all disciplines required to design and build state of the art facilities. These include but are not limited to architectural facility planning, structural engineering, mechanical and electrical engineering and fire suppression.

Author: Richard Gibbons
Business Development Director
rgibbons @asiglobal.net