

Project Spotlight



Private Jet Hangar AIUla, Saudi Arabia



SFRC ground bearing Freeplan® 'jointless' floor slab

Twintec Saudi LLC recently accomplished its first project in AIUla Saudi Arabia owned by Royal Commission for AIUla with a span area of 4,900m².

The AIUla Airport Private Jet Hangar project is part of the development in the region and is expected to cater various flights as the plan involves a broad range of initiatives across archaeology, tourism, culture, and education and the arts and reflecting Vision 2030's goals in economic diversification, local community empowerment and heritage preservation.

The project is designed to accommodate the load of 478.80 KN for G700 aircraft in compliance with finish level FF45 / FL 35 as per ACI 302.1R-04. In addition to the project Statement of Environment affects (SEE) Environmental and Social Impact Assessment (ESIA) and the Framework Construction Environmental and Social Management Plan (F-CESMP) in line with the Saudi Green Initiative campaign under the patronage of His Royal Highness (HRH) Crown Prince Mohammed bin Salman, which will chart a path for the Kingdom of Saudi Arabia (KSA) in protecting the planet.



Project Data

Owner: Royal Commission for AIUla	Consultant: EGIS / AECOM
Main Contractor: Astra Construction	Designer: Arabtech Jardaneh
Loads: 478.8 KN (Aircraft Weight)	Flatness: FF45/FL35 (Int), FM3 (Ext)
Fibre Type: 4D Dramix 80/60BG	Fibre Dosage: 20kg/m ³
Pouring Days: 6 Days	Completion Date: Nov. 2022

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Using **Twintec Freeplan®**, the internal slab is a Steel Fibre Reinforced Concrete (SFRC) jointless flooring solution designed by Twintec and cast with a depth of 230mm designed to cater to aircraft weight of 478.80KN following the flatness tolerance of FF45 / FL 35 as per ACI 302.1R-04.

Twintec also applied epoxy coating on the internal slab in compliance with the client's requirements to help the slab to be more slip resistant as an additional precautionary safety measure.

Twintec also laid **Freeplan® XT** on the external part of the hangar with 330mm slab depth following the flatness tolerance of FM3 as per TR34 4th Edition. The external slab consists of steel mesh reinforcement with traditional Saw-Cut joints that will help to control the cracking that may occur due to shrinkage.



Twintec is unique worldwide in offering a total responsibility package of Design-Build-Guarantee.

Design:

Twintec's in-house engineering team considered all elements of the projects. Specifically considering loading requirements, operational traffic within the facility, and durability and life costs. A 230mm slab thickness for internal and 330mm slab thickness for external was utilised with a fibre dosage of 20kg/m³ of high tensile strength 4D Dramix 80/60BG of steel fibres. The internal floor slab also encompassed the Terajoint® steel armoured construction joint to ensure a smooth load transfer between highly trafficked panels.

Build:

Coordination of activities on site is a key success factor and this was achieved by the professional project teams of Royal Commission for AlUla, EGIS, AECOM, Arabtech Jardaneh, and Astra Construction together with Twintec ensuring that all parties worked together to deliver a successful project.

الهيئة الملكية لمحافظة العلا
Royal Commission for AlUla



Guarantee:

The Twintec assurance guarantee is provided to all parties in a project. This incorporates insurance, warranties, and advisory notes together with Twintec quality guarantees that come from employing professional staff throughout the business, a high level of customer service, and a robust aftercare system.

Contact the Twintec Saudi LLC business team for further information:

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