



■ Commercial Buildings

Reference Details:

Owner American University of Beirut, Lebanon +++ **General Contractor** Karagulla Engineering and Contracting, Beirut, Lebanon +++ **Architect** Vincent James Associates Architects (VJAA), Minneapolis, MN, USA +++ **Technical Consultant** D.G. Joines / SKP, Beirut, Lebanon

DSI Unit SOPREL Liban SAL, Halate, Lebanon

DSI Scope Supply, installation, stressing and grouting of DYWIDAG Post-Tensioning Tendons Type MA 6815, MA 6812 and MA 6809



DYWIDAG Post-Tensioning Tendons stabilize university building in Beirut

»Charles Hostler« Sports and Cultural Center, American University of Beirut, Lebanon

The American University of Beirut, a private, independent, coeducational, comprehensive university, was founded in 1866 with 16 students. It is chartered by the state of New York. At present, more than 6,900 students from all over the world are studying there.

The campus has now been expanded by a center for cultural and athletic activities. The principal construction projects include the construction of two new sports buildings that are very interesting from an architectural point of view. One particularity with regards to the construction of the sports buildings is the execution of the slab construction in form of a flat slab with 40 m long post-tensioned tie girders.

The 40 m long girders rest on very slender columns that form the structural frame. The buildings are reinforced by two monolithically erected staircase towers located at the opposite sides of the structures.

DSI's licensee in Lebanon, SOPREL Liban SAL, was awarded the contract to supply, install, stress and grout DYWIDAG Post-Tensioning Tendons. The area of the cantilevered slender columns turned out to be a critical section for the upcoming stressing operations to be carried out on the 40 m long beams.

In order not to compromise the stability of the substructure in that section, the girders were at first supported by a temporary auxiliary frame and subsequently post-tensioned one after the other. Only after completion of the stressing and grouting operations could the loads from the beams be transferred to the columns and the two staircases.

SOPREL Liban SAL successfully completed the tensioning and grouting operations without compromising the building's stability under partly extreme general political conditions.