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Key Techniques in Construction
of 600-meter-level Rigid Skeleton Arch Bridge

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ABSTRACT

This talk introduces the key techniques in construction of 600-meter-level Rigid Skeleton Arch Bridge. Manufacturing and shipment technique of Q420 rigid skeleton, system of intelligent cable crane, construction method of "Pile cap + Ultra-long rock anchor" composite anchor system are presented. Based on the methodologies mentioned above, combined with the control theory for the one-time tensioning of the cables, high-precision manufacturing and installation of the rigid skeleton is realized. And finally, the stability and stress requirements of rigid skeleton have been ensured by adopting the C80 no-shrinkage manufactured sand concrete with vacuum aided grouting method, as well as the innovative preparation technology and construction method of outer-covered concrete.

Keywords: rigid skeleton arch bridge, manufactured sand concrete, vacuum aided, grouting.