

# KING ABDULLAH FINANCIAL DISTRICT (KAFD) STATION, RIYADH METRO RIYADH, KSA

**CCL Client:** Riyadh Metro Project  
**Main Contractor:** BACS



CCL provided the post-tensioning (PT) solution for the new King Abdullah Financial District (KAFD) station, which will be one of the four primary stations of the new Riyadh Metro and is due for completion in 2020.

Designed by Zaha Hadid Architects the structure features a complex geometric façade designed to resemble sine-waves and at 32 m high, 42 m wide and 232 m long, is thought to be the biggest elevated transfer station in the world. The weight of the external steel structure is approximately 4237 t while the interior steel structure weighs a further 2785 t.

CCL designed and installed the main beams which help support the metro railway and the steel structure. The post-tensioned beams supporting the inclined columns

of the steel structure, span an impressive 190 m and are themselves supported by inclined columns. The individual beams include eight tendons, each with 27 strands. PT couplers were used on 50% of the tendons at each construction joint.

Construction of this complex structure was carried out in many phases. The necessary calculations were extremely sensitive to this phasing, requiring very delicate and precise step analysis to be carried out, especially for the connections between the inclined steel columns and the PT beams.

Once complete the KAFD station will include shops, two levels of parking, potential future baggage handling systems and two prayer rooms.

Post-Tensioning - CCL KSA

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