

KØGE NORD STATION

Part of the Copenhagen - Køge - Ringsted railroad line

Client: Banedanmark, Køge Municipality and DSB (Danish State Railways).

Architects: COBE and DISSING+WEITLING architecture.

Consulting engineer: COWI.

Contractor: Bladt Industries.

ABOUT KØGE NORD STATION

- Køge Nord Station is an important traffic hub for Greater Copenhagen at the juncture of the high-speed regional rail line, the urban-suburban S-train line and Køge Bugt motorway
- The station is scheduled to run six trains an hour in each direction on the S-train line and three regional trains an hour in each direction
- Every day, an average of 90,000 passengers are expected to pass through this juncture; about 8,000 of them are expected to use the station
- The Køge Nord Station project includes a vision plan, a footbridge and a train station as well as parking and transit facilities and is a unique example of Danish architecture and engineering
- Banedanmark is the client for the footbridge, Køge Municipality for the parking and transit facilities and DSB for train platform furnishings
- Køge Nord Station was announced as an international project competition in the EU in 2014. Thirty-eight teams from Japan, the United States and seven EU countries submitted bids for the project, four of which subsequently pre-qualified.

ABOUT THE FOOTBRIDGE

- The groundbreaking ceremony took place on 13 September 2016
- The covered footbridge is 225 meters long and 9 meters wide
- The total weight of the bridge, including elevators and escalators, is 1,000 metric tons
- The bridge has a 180-degree panoramic view of the highway and the cultural landscape
- It was installed in six sections, the heaviest section weighing 195 metric tons
- The bridge construction is supported by seven concrete pillars placed outside the clearance gauges of the railroad and highway
- The longest span over Køge Bugt highway measures 58 meters
- The steel girder has an internal dehumidification system and two Tuned Mass Dampers (TMD) for attenuating vibrations inside the two largest spans
- The exterior cladding of the footbridge consists of 48,00 m² anodized aluminum panels
- The bridge has 31 windows in the south-facing facade and just one in the north-facing facade
- The project used 620 tons of steel and 920 m³ of concrete
- The bridge can carry up to 1,800 persons at a time
- The bridge is equipped with five elevators and five stairs in conjunction with escalators
- The elliptical shape is designed to hug the underlying terrain with its varying requirements to clearance height above the S-train line, the highway and the high-speed rail line