

IKEA THUMAMAH

Riyadh, KSA

Building Type

Big Box Retail
27,000 m² of Retail space
41,000 m² BUA including parking

Project Highlights

- Employs Adiabatic cooling
- Only DX equipment used for a total of 3,838 KW of cooling requirements
- 49,000 L/S of Conditioned ventilation fresh air provided.
- 3,000 gpm duty fire pumps.
- 6 Nos. 13.8 KV / .4 KV transformers
1.5 MVA
- 24 m² / TR including fresh air load
- 34 m² / TR air conditioning load

Client Owner

IKEA KSA – Owner



Riyadh has a dry climate akin to Las Vegas in USA.

Concept Architects Greenberg Farrow, designers of IKEA in Las Vegas, USA introduced DX rooftop package units to serve the cooling requirements of this Thumamah, Riyadh, KSA store. The Rooftop units (RTU's) use adiabatic cooling for pre-cooling ventilation air while DX for dehumidification & heat transfer devices for humidity control providing a very innovative green and sustainable design solution for the mechanical system.

Fabric ducting used throughout the market hall for sustainability, ease of cleaning and other quantifiable features.

Potable water, brought in by tankers, is polished, sterilized and distributed throughout with additional softening to O'dh for use in kitchen.

The MEP design by Mario Associates includes all ELV and specialist IT / Security / Access Control systems to strict IKEA requirements and standards.

3,000 gpm duty fire pumps serve the wet pipe and hydrant fire fighting system.

The fully integrated design approach required skype call between USA / KSA / SITE and multiple offices within each country to achieve the full schematic design from concept to tender stage within 12 weeks.

