

Istanbul Sabiha Gökçen Airport

Project Management, Fabrication and Assembly Contract

CUSTOMER

Limak Construction (Turkey) –
GMR (Malaysia) JV

LOCATION

Istanbul, Turkey

STRUCTURAL ENGINEER

ARUP Engineering and
Consultancy Ltd.

MAIN CONTRACTOR

Temsan Inc

PERIOD

May, 2008 - October, 2009

SERVICES PROVIDED

CERM-EX Inc has been responsible for steel fabrication and construction of the international terminal building roof system.

CONSTRUCTION AREA

40,000 m²

TONNAGE CAPACITY

5000 Ton

Arup design for Sabiha Gokcen International Airport terminal uses 300 isolators to reduce lateral earthquake loads by 80%, enabling it to withstand an earthquake of 7.5-8.0 on the Richter scale. This makes the building, at over 40,000 m² on plan, the largest seismically isolated structure built to date.

The bearing system of the structure consists of moment frames in both directions. Columns are composite square box and are placed in a 16mx16m grid system to form typical floor panels. The main beams that provide the frame axle in both directions are solved composites in the middle of the span, and it is aimed to save money by using plain steel in the support areas. As a result, steel sections in the support areas of the main beams were made stronger than the section in the span and S355 Steel grade were used. The reason for using fabricated sheet metal profiles is to ensure short supplying period and more economical solution by using optimum cross-section.

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The same approach has been applied for ribbed beams. Instead of using a ready-made rolling profile, the most economical section was determined for this system. All kinds of displacement, vibration and strength calculations have been made for these sections. As the determining factor in these sections is displacement and vibration, S235 steel grade has been used in line with the main contractor request. In addition to the low cost of the S235 sheet, the supplying time played a serious role in this decision.

IMAGE
Istanbul Sabiha Gokcen Airport





ABOUT US

CERM-EX is a privately owned, internationally focused engineering enterprise with world-class capabilities spanning the entire client value chain. We operate an integrated business model comprising the full range of engineering, fabrication and construction services delivering single-source solutions for some of the world's most prestigious public and private organisations.

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