



New Integrated Terminal Building at Tirupati Airport

Location	: Tirupati, Andhra Pradesh
Site Area	: 1,62,000 m ²
Built-up Area	: 16,500 m ²
Typology	: Airport
Energy Consumption Reduction	: 44% reduction in energy consumption compared to GRIHA benchmark
EPI	: 156.3 kWh/m ² /year
Renewable Energy	: Rated capacity of solar PV installed on site is 5 MWp
GRIHA Provisional Rating	: 4 Star Rating (Version 2)
Year of Completion	: 2017

The following strategies were adopted to reduce the building impact on the natural environment:

📍 Sustainable Site Planning:

- All the existing 5 trees were protected and 67 new trees were planted.
- Top soil of the site was preserved on site and was reused for landscaping.
- Barricading of site was done to prevent air pollution.

📍 Water Management:

- Reduction of 63.08% from the GRIHA base case has been demonstrated in building water demand by installing water efficient fixtures.
- Reduction of 57.21% from the GRIHA base case has been demonstrated in the landscape water demand.
- Gunny bags were used for curing of columns and ponding technique was used for curing slabs.

📍 Energy Optimization & Occupant Comfort:

- For achieving visual comfort:
 - » 80% of the living area meets daylight factor as prescribed by NBC 2005).
- For achieving thermal comfort:
 - » EPI reduction of 44% from the GRIHA base case has been demonstrated through the integration of high-performance systems.

📍 Renewable Energy Technology installed on Site:

- 5 MWp solar photovoltaic system has been installed on site.

📍 Sustainable Building Materials:

- Reduction of 64.8% from the GRIHA base case has been achieved in embodied energy of non-structural system by using fly ash bricks.

Integrated Design Team:

Client	: Airport Authority of India
Principal Architect	: Aadharshila Designs Pvt. Ltd. (ADPL)
Landscape Architect	: Integral design
Electrical Consultant	: MEP, AECOM India Pvt. Ltd.
Green Building Design and Certification	: Sustainability Solution Group, AECOM India Pvt. Ltd.