

CATERPILLAR DISTRIBUTION CENTER, DUBAI



	43	110
SUSTAINABLE SITES	6	26
WATER EFFICIENCY	2	10
ENERGY AND ATMOSPHERE	20	35
MATERIALS AND RESOURCES	3	14
INDOOR ENVIRONMENTAL QUALITY	6	15
INNOVATION IN DESIGN	2	6
REGIONAL PRIORITY CREDITS	4	4

 Points Achieved  Points Available

FAST FACTS

LEED Certification: Certified, New Construction V3
 Area: 501,075 ft² / Office and Industrial Building
 Neighborhood: Jebel Ali Free Zone South, UAE
 Construction Cost: \$46.7 / ft²
 Completed: January 2013
 Date of Certification: April 2013

BENEFITS

36.5% Savings on Energy Use
28.39% Savings on Potable Water Use
10.12% Materials Use with Recycled Content
93.3% Regional Materials Use
59.48% Savings on Irrigation Water Use

PROJECT BACKGROUND

A new resolution on the implementation of green building specifications and standards in the emirates of Dubai has been issued by H.H. Sheikh Mohammed bin Rashid Al Makhtoum, Vice-President and Prime Minister of UAE and ruler of Dubai. As per the new resolution, effective on January 2008, all owners of residential and commercial buildings and properties in the emirates of Dubai must comply with the internationally recognized environment friendly specifications to turn Dubai into a sustainably developed city that meets the demands of best practices and benchmarks of environment friendly growth pattern.

In response to this resolution, we are proud to inform that “**CATERPILLAR DISTRIBUTION CENTER**” has been awarded with Prestigious LEED Certification established by the U.S. Green Building Council and verified by the Green Building Certification Institute (GBCI).

Caterpillar distribution center is a new construction Facility Complex project which is comprises of Workshop, Warehouse and Office. The Project building was decided to target LEED certification during the design stage in 2010. Design development and construction completion happened during the period 2011-2012 finally achieving the target in 2013. Footprint of the project building is 492,900.18ft² with a building area to site area ratio of 41.85%. 688,083.73ft² of the area is outside building footprint, within LEED project boundary that is comprised of hardscape.

The facility was opened by Stu Levenick, Caterpillar group president with responsibility for customer and dealer support, and Her Excellency Salma Ali Saif Bin Hareb, CEO of Economic Zones World and Jafza. It will supply parts to markets in the Middle East and Africa.

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PROJECT PROFILE

SUSTAINABLE SITES AND TRANSPORTATION

- ❖ Provides Bicycle Storage and Changing Rooms
- ❖ Provides preferred parking and low-emitting and fuel-efficient vehicles on-site
- ❖ Provides car/van pool parking
- ❖ 92% of the building on-site parking is located underground or under cover
- ❖ Roofing materials meet the SRI requirement avoiding heat island effect

ENERGY, WATER AND MATERIAL RECOURSE CONSERVATION

Global Engineering Systems FZC as a Sustainability Consultant for Caterpillar distribution center, has created an energy model to evaluate the effectiveness of the building's energy conservation measures, in compliance with ASHRAE Std. 90.1-2007 Appendix G methodology.

The following are the Energy Efficiency Measures incorporated in the project:

- ❖ Giving the right orient for the building reducing the solar heat gain
- ❖ Highly insulated building envelope elements
- ❖ Optimized glazing and incorporation of skylights in the warehouse and workshops
- ❖ Efficient lighting design and controls with optimal power density
- ❖ Efficient HVAC systems
- ❖ Conducted enhanced commissioning to ensure results of holistic building energy system design

The following are the water and resource conservation measures incorporated in the project:

- ❖ Uses low flow fixtures in faucets, sinks and showers
- ❖ Uses dual flush water closets
- ❖ Incorporated native adaptive vegetation and micro controlled irrigation
- ❖ Incorporated recycled content in the building materials
- ❖ Boosting the local market and reducing the foot miles by purchasing more regional materials

INDOOR ENVIRONMENTAL QUALITY

- ❖ The IAQ performance complies with the minimum requirements of ASHRAE Std 62.1-2004
- ❖ Installed air flow monitoring device for each mechanical ventilation to monitor the fresh air
- ❖ Installed CO₂ sensors to monitor the carbon dioxide concentration in the densely occupied spaces
- ❖ Developed and implemented a Construction Indoor Air Quality (IAQ) Management Plan in reference to SMACNA guidelines
- ❖ Use of building finishes materials with low emission of volatile organic compounds (VOC) for adhesives, sealants, paints and coatings
- ❖ Had installed carpet which is CRI certified

THE TEAM

Owner: CATERPILLAR

Design Consultant: Global Engineering Office

Contractor: Al Reyami

Green Building Consultant: Global Engineering Systems FZC Dubai, UAE

LEED AP: S. Nagarajan, Shyam Chandra V

Commissioning Authority: Global Engineering Systems FZC Dubai, UAE



CATERPILLAR DISTRIBUTION CENTER, DUBAI

Jebel Ali Free Zone, United Arab Emirates

HAS SUCCESSFULLY ACHIEVED THE FOLLOWING LEVEL OF CERTIFICATION ESTABLISHED BY THE U.S. GREEN BUILDING COUNCIL
IN THE LEED GREEN BUILDING RATING SYSTEM™ AND VERIFIED BY THE GREEN BUILDING CERTIFICATION INSTITUTE.

LEED FOR NEW CONSTRUCTION

CERTIFIED

RICHARD FEDRIZZI, PRESIDENT & CEO
U.S. GREEN BUILDING COUNCIL

April 2013

PETER TEMPLETON, PRESIDENT
GREEN BUILDING CERTIFICATION INSTITUTE

