



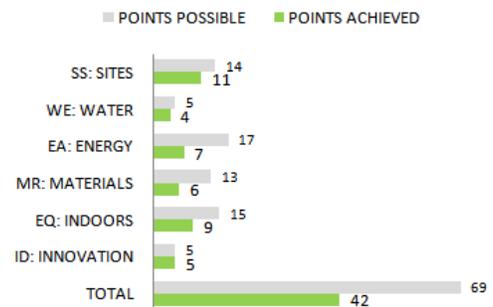
## CASE STUDY: MINESTONE GREEN DIAMONDS



### KEY PARAMETERS

|                         |   |
|-------------------------|---|
| <b>Occupancy Type</b>   | Diamond Processing and jewelry manufacturing unit |
| <b>Built up area</b>    | 48,000 Sq. ft                                     |
| <b>Completed</b>        | October, 2008                                     |
| <b>Location</b>         | Navsari, Gujarat                                  |
| <b>Owner</b>            | MINESTONE   |
| <b>Green consultant</b> | En3 Sustainability Solutions                      |
| <b>Rating System</b>    | LEED NC   |
| <b>Rating Achieved</b>  | GOLD  |

### LEED SCORES

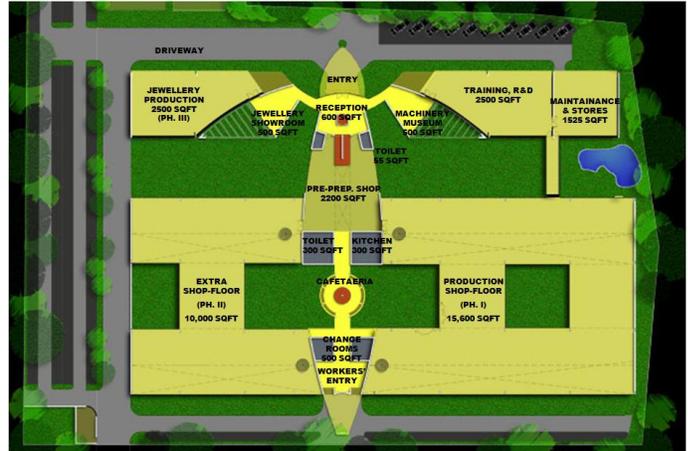


MINESTONE GREEN DIAMONDS is a diamond processing Jewellery and manufacturing unit that has more than 500 occupants. Taking its building towards the green initiatives, the building has been awarded LEED NC GOLD certification by USGBC thereby making it one of the first factory buildings in India to achieve the award. En3 has worked very closely with MINESTONE to achieve LEED GOLD certification by incorporating energy, water and materials efficiency measures in addition to providing a superior indoor air quality and overall environment for all its employees.



### *SITE SUSTAINABILITY FEATURES*

- Stacking and protection of top soil onsite and reusing the same for landscaping.
- Detention basins for storm water Channel.
- Bicycle stall with showers endorsing the use alternate vehicles.
- Provision of Alternate Fuel Refueling Stations for Fuel Efficient Vehicles.
- Refurbishment of 55.40% of the project site.
- Effective storm water runoff management is done by stipulating rain water harvesting.
- Metal roofs with an SRI greater than 29 used on the parking spaces reducing Urban Heat Island effect.

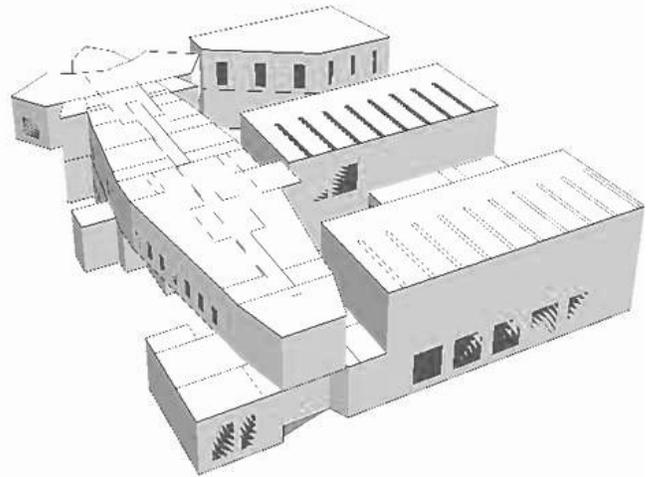


### *WATER EFFICIENCY*

- Water efficiency is an integral part of the sustainability initiatives.
- Special efforts have been taken to minimize water use by installing water efficient fixtures and effective rainwater harvesting.
- The project achieved water reduction usage by 70% through treated waste water
- The entire rain water on-site is captured and stored in huge rain water harvesting ponds.
- Low flow dual-flush toilets, sensor based urinals and other low flow fixtures have been installed to reduce potable water consumption by over 55.70%.

### *ENERGISING THE BUILDING*

- In line with international standards, the refrigerants used in the air conditioning system are environmentally friendly and have very low ozone depleting and global warming potential.
- A detailed metering system ensures adequate measurement and monitoring of all building systems to continuously monitor the building post-occupancy as well.
- A detailed energy analysis and modeling has been done to ascertain various options for energy savings with cost-benefit/payback analysis including high performance glazing, low u-value walls and roof, energy efficient HVAC systems and CFL, T5 and LED based low energy lighting systems.





## *RESOURCE MANAGEMENT*

- The project has ensured up to 96.60% of total construction waste of debris has been recycled or reused thereby diverting them from landfills.
- The project has achieved a combined recyclable content value of 20.90% of total material by cost thereby reducing virgin material exploitation.
- About 68.70% of the total material cost was manufactured and extracted regionally thereby reducing the pollution due to transportation

## *INDOOR ENVIRONMENTAL QUALITY*

- In order to support enhanced IAQ and long-term well-being of all occupants, adequate fresh air has been planned in line with international ASHRAE standards
- The entire building interior is a non-smoking space thereby ensuring the health and safety of all its occupants
- Adhesives, sealants, paints and coatings used in the building are low VOC (volatile organic compounds) thereby having minimum organic emissions that are harmful to humans
- The composite wood products used have been purchased to ensure that they do not contain urea formaldehyde that can be potentially harmful for occupant health
- Majority of the occupants of the building will have control over their lighting and air conditioning set points thereby giving them the flexibility to control their own environment
- The entire building has 95.631% of space has direct access view of outdoors providing connection to the exteriors

## *NOVELTIES*

The project achievement exceeds the threshold of 96.60% for exemplary performance in Construction Waste Management. 68.70% of the total project's materials, based on cost, were manufactured regionally. The project Achievement is higher than the next incremental percentage threshold of 40% and water use reduction by 55.70%. The building has been designed by En3 to showcase various green and sustainability measures and practices and the effort is to use this building to create greater awareness on green concepts and sustainability to all its visitors and occupants & spearhead the green movement in the state and the country.

## *KEY DISTINCTIONS*

Minestone is the one of the first factory buildings in India to achieve LEED GOLD Distinction Award from the UGBSC.

En3 would be glad to answer any queries or questions you have on any green or sustainability related topics. Feel free to contact us at [info@en3online.com](mailto:info@en3online.com) and for more information visit us at [www.en3online.com](http://www.en3online.com).