A

REPORT

OF

Technical Visit

At

"Shairu Gems Diamonds Pvt. Ltd.

Katargam, Surat,"

05th April 2023

Organized By,

Civil Engineering Department

A.Y.DADABHAI TECHNICAL INSTITUTE, KOSAMB

Technical Visit to

"Shairu Gems Diamonds Pvt. Ltd."

Civil Engineering Department of AYDTI,KOSAMBA has organized Technical Visit to Shairu Gems Diamonds Pvt. Ltd for third year Diploma(6th semester) . students on Wednesday April 05th , 2023.

There were 19 Students, 2 Faculty Members and 1 Lab Assistant who took part in this visit. The whole visit was carried out in different phases. Firstly, start with presentation with its company history by Mr.mohmmad . After that, two building of shairu gems was visited by students with their company head.

The aim of this visit was to make students understand the aware about the various green building materials used in building, its applications and principles of green building. This visit would help the students to address the course outcomes of the subject such as CONSTRUCTION QUALITY CONTROL & MONITORING (3360602). The details of different phases of visit are discussed below in detail.

Shairu Gems

The visit was commenced from Surat Railway Station at 10:00 a.m. and was reached at Shairu Gems at 10:30 a.m.Shairu Gems was founded in Surat, Gujarat, and currently employs more than 1500 employees across the globe covering the traditional markets of America and Europe, as well as the fastest growing regions of India and Far East Asia.

Purpose as a company

Through Block chain Green technology; we examine the traceability and cost-effectiveness of their products. This ensures transparency and assurance in a B2B and B2C ecosystem. With a strong focus on sustainability; They are the leaders of Eco-consciousness in the diamond industry.

It is LEED **(IGBC) certified diamond manufacturing facility is the first of its kind in India**. They operate **the world's first green diamond factory** and are **India's first carbon-neutral natural diamond company**.

They have built an energy-efficient establishment that encourages water and energy conservation. A 52.8 kWp solar roof-top installation generates over 3% of clean power on-site and over 75% of clean energy is generated by our 1.25 MWp windmills off-site.

Being the first gold-level LEED IGBC certified factory in the diamond industry, they continue to pursue their commitment towards the United Nations' Sustainable Development Goals to promote prosperity while protecting our planet and people.

- Energy efficient diamond production facility
- Built with eco-friendly materials
- On-site water conservation
- Optimized energy consumption

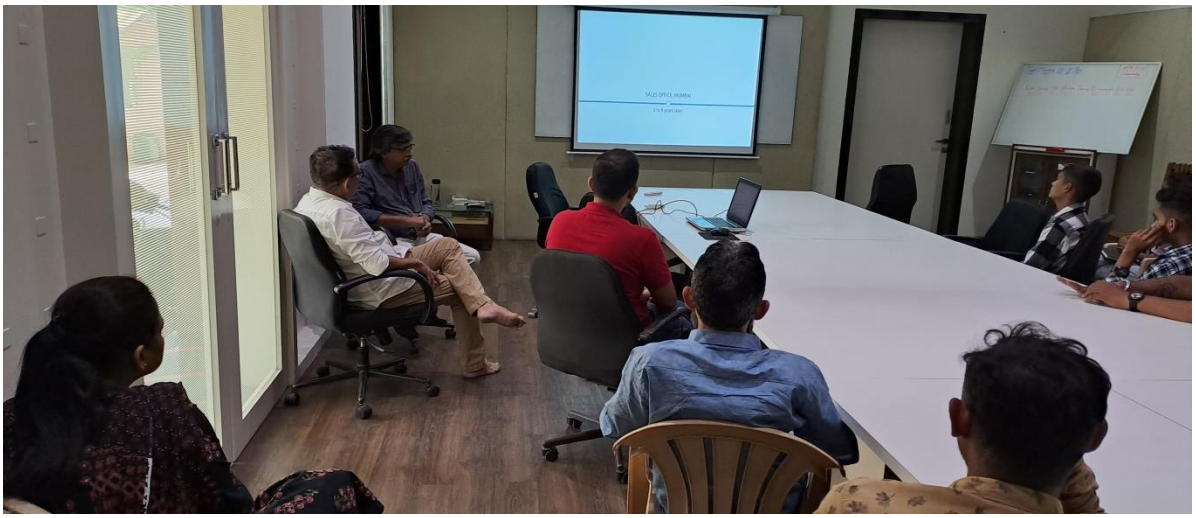
Green Building Technology: Green technology, also known as sustainable technology, is one that has a "green" purpose. Green is a reference to nature, of course, but green technology, in general, is one that takes into account the long and short –term impact, an invention has on the environment. Green products are environmentally friendly inventions that often involve energy efficiency, recycling, safety and health concerns, renewable resources, and more. Green Building is one of the examples of the Green Technology. Green Building (also known as green construction or sustainable building) refers to both a structure and the application of processes that are environmentally responsible and resource-efficient throughout a building's life-cycle: from planning to design, construction, operation, maintenance, renovation and demolition. The green building practice expands and complements the classical building design concerns of economy, utility, durability, and comfort.

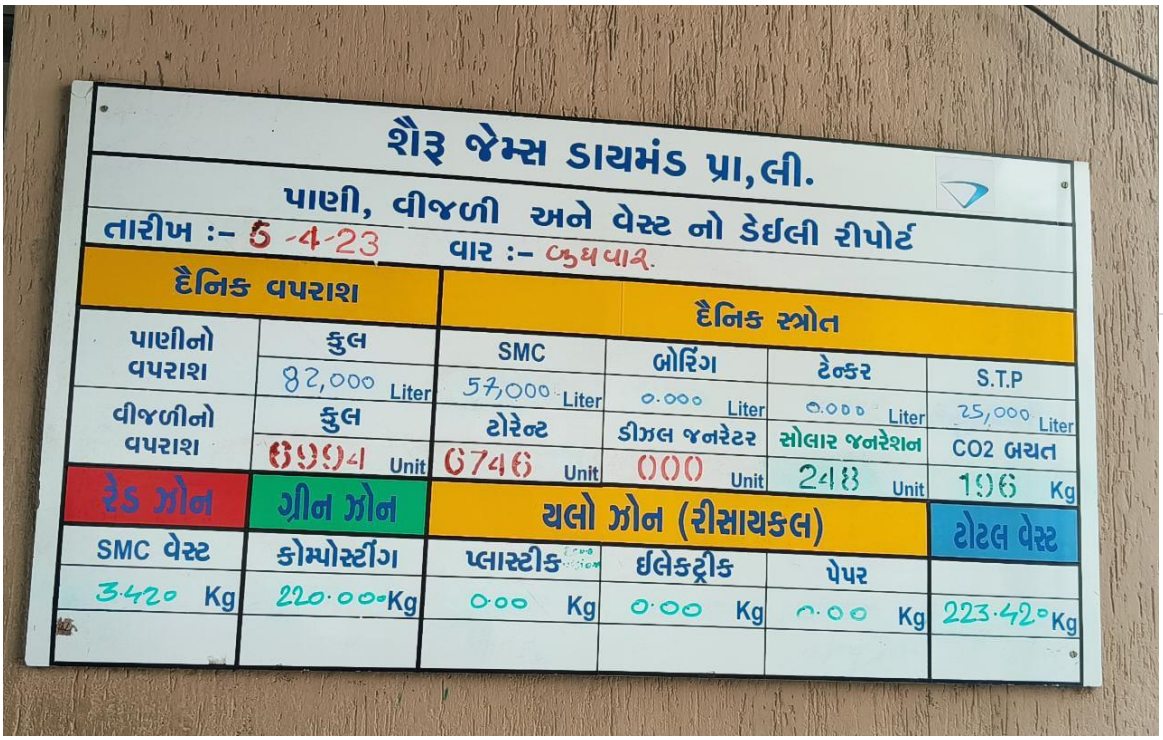
During Visit Mr.Sheth has detailed about various green building features used in Shairu gems as below:

- Shairu gems has its own sewage treatment plant.
- Those hiring offices in this building are guaranteed 30% lower electricity bills. Since two and half years of existence this has been realized. It is thanks to availability of natural light(maximum windows on north side, minimum opening in south facade) and chilled water based HVAC system plus Heat Recovery Plant.
- Shairu gems has censor based pressurized staircase area which means whenever there's an incident of fire, the censors identify the trouble and release air with pressure to keep fire away from staircase and lift areas. The building has system that prevents spread of fire from one floor to another floor.
- To avoid "Sick Building Syndrome", Shairu gems has some special features to manage IAQ (Indoor Air Quality). These include round the clock supply of TFA- Treated fresh air in each offices & each foyer and passage area; HRW- Implementation of Heat recovery wheel which treat the outside air and segregate hazardous contaminates from that air before supplying through TFA duct and Co2 Sensor- a carbon dioxide sensor or CO2 sensor, an instrument for the measurement of carbon dioxide gas. The most common principles for CO2 sensors are infrared gas sensors and chemical gas sensors. Measuring carbon dioxide is important in monitoring indoor air quality,
- The building also has BMS System – Building management system, which regulates the whole building for fire, plumbing, electrical, HVAC and whole IAQ management. IAQ Management i.e. indoor air quality is the key feature of Shairu gems.
- A special IAQ analysis has been undertaken for the building and on the basis of the same, VOC- volatile organic compound free paints have been used in the building. Proper building flush out is also made available to remove stains of any hazardous substance. All refrigerant in the building are CFC free – chlorofluorocarbon which is also harmful to health.
- The material used for the routine housekeeping procedure is also green-certified so that it does not have any adverse impact on the health of the occupiers.
- Shairu gems has water based air conditioned system. Those having offices here are not allowed to have conventional kind of air conditioning. They need to have water based AC only if they at all wish to have one.
- Shairu gems has been constructed using green building norms. It has been built using fly ash bricks. It has been built by keeping top soil conservation in mind. Flushed water goes to water treatment plant where waste water is reused to great extent for purposes other than requirement of potable water.

- Centrally Air-conditioned with Chilled Water supply
- Maximum Use of Eco-Friendly Recycled, Recyclable or Renewable Material
- Ultra-High Pressure Fire System.
- They have planted nearly 40,000 trees so far and set-up an off-site windmill that generates over 1.5 million kWh/annum of electricity.

PHOTOGALLERY





શૈરૂ જેમ્સ ડાયમંડ પ્રા,લી.

પાણી, વીજળી અને વેસ્ટ નો ડેઇલી રીપોર્ટ

તારીખ :- 5-4-23 વાર :- બુધવાર.

દૈનિક વપરાશ		દૈનિક સ્ત્રોત			
પાણીનો વપરાશ	કુલ	SMC	બોરિંગ	ટેન્કર	S.T.P
	82,000 Liter	57,000 Liter	0.000 Liter	0.000 Liter	25,000 Liter
વીજળીનો વપરાશ	કુલ	ટોરેન્ટ	ડીઝલ જનરેટર	સોલાર જનરેશન	CO2 બચત
	6994 Unit	6746 Unit	000 Unit	248 Unit	196 Kg

રેડ ઝોન	ગ્રીન ઝોન	યલો ઝોન (રીસાયકલ)			ટોટલ વેસ્ટ
SMC વેસ્ટ	કોમ્પોસ્ટીંગ	પ્લાસ્ટીક	ઈલેકટ્રીક	પેપર	
3.420 Kg	220.00 Kg	0.00 Kg	0.00 Kg	0.00 Kg	223.42 Kg