



# Pinnacle Industrial Enterprises

## Product & Technology Portfolio

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[www.pinnacleind.in](http://www.pinnacleind.in)



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## Contents

1. Introduction .....	4
2. Lightweight Wall Solution .....	5
3. Sandwiched Solid Surface .....	7
4. Electric Wall Mounted Panel Heater .....	9
5. Lightweight Calcium Silicate Ceilings (CaSiLite) .....	12
6. Rubber Flooring Tiles .....	16
7. Compact Fluorescent Lamps.....	18
8. Contact Details.....	19



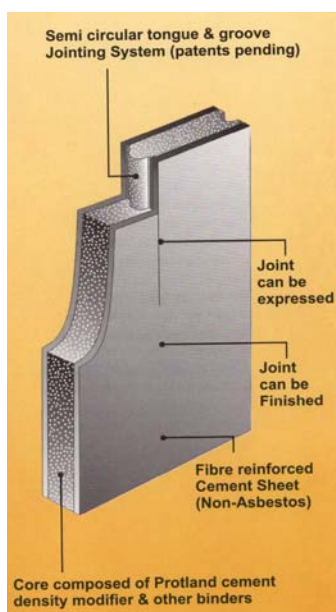
## 1. Introduction

Pinnacle Industrial Enterprises (PIE) is a firm with diversified interests. Key focus of the company is on promotion and development of industrial ventures and technologies. The company also has minor interest in design, development and manufacture of adaptive aids for the physically challenged.

In association with its sister concerns, PIE offers the following products and technologies to end-users, traders, investors and manufacturers.



## 2. Lightweight Wall Solution



These panels are currently made to a thickness of 50 mm with special designed tongue & groove (patent pending) arrangements in a standard width of 600 mm. Lengths available are 2400 mm, 2700 mm, 3000 mm and 3300 mm. Panels of 75 mm thickness will be available soon.

### Applications:

1. Wall Partition
2. Pre-fabrication house
3. Mezzanine Floor
4. Pre-fabricated Accommodation

### Advantages:

- Light in weight in comparison to other similar panels,
  - Panels have a uniform thickness & density
  - 5% addition floor area will be available on replacing 125mm brick wall with 50mm panel
- Can be dismantled & relocated.
  - Being light in weight handling & installation become very easy. No brick and plastering are required.
  - Specially designed tongue and groove (patent pending) arrangement ensure a perfect joint and makes construction faster.
  - More suitable for seismic and cyclone prone zones
  - Excellent adhesion between core and facing sheets
  - Good sound and thermal insulation properties
  - Humidity, water and termite resistant properties to withstand any adverse weather conditions,
  - Panels have a fire rating of 60 mins.
  - Load bearing construction eliminates steel structures
  - Can build 2 storey without steel columns
  - Can support concrete slab.



Wall Paneling

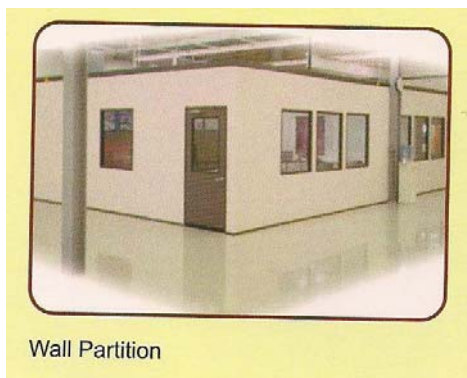
### Key Characteristics:

- Light Weight: The panels are easy to transport handle and erect providing flexible in design and significant structure cost savings.
- Easy to Install: The panels are ready to install which saves time. The tongue and groove system allows rapid assembly with panel being slid between top and bottom steel or



aluminum section and locked together. Panel can be cut with power tool and are ready to use or to finish with any decorative treatment.

- **Strong and Durable:** The panels withstand knocks, and rough treatment. The panels are also suitable for seismic and cyclone prone zones.



Wall Partition

**Other Features:**

- **Save Space:** The panels being slim leave you with extra usable floor space without compromising on insulating properties
- **Insulation:** The panels provide excellent thermal and sound insulation
- **Fire Resistant:** The panels have a fire rating of 60 minutes
- **Water Resistant:** Water resistant properties withstand adverse weather conditions
- **Termite Resistant:** The panels are termite resistant

Off-take agreements are in place for this product for customers in Australia.



### 3. Sandwiched Solid Surface

This is a product (Patented) using an innovative approach to offer an economical solution to surfacing needs. It is a non-porous homogenous composite material having a working surface made of specialty resin with fire retardant filler and a strong cost-effective core sandwiched (using a sandwich concept) with resinous composites. The surface can be provided with imaginative inlays with attractive edge effects and comes in various shapes and sizes for flat surface application in contrasting color combinations and granite effects.



The product is supplied with smooth flow patterns avoiding sharp edges, is pleasant to touch and can be kept clean offering a product of highest hygienic standards. It is stain and scratch resistant and can be buffed to restore original appeal when needed.

#### Product Advantages:

- The surface does not harbor bacteria and fungus.
- The surface is resistant to mild-acids and some chemical mild stains scratches and nicks can be easily removed.
- The surface is impact-resistant durable and easy to refurbish.
- The surface is available in standard contrast colours and granite effects with standard edge profiles and standard range of attractive inlays. Nevertheless custom design options for specific application are available.
- The surface is available as counter top to suit standard ceramic bowl or stainless steel sink. It can also be supplied with drop-in-solid surface bowl or fused solid surface bowl or sink of our make in American designs.
- The surface is only solid surface work top made ready to use.

#### Why This Surface:

Unmatched durability surface that can be repaired and restored to original finish makes it the ideal choice for horizontal and vertical indoor applications. This product/technology competes with some of the World's best known names at almost half the price. Our surface competes technically and commercially with products like Meganite™, EOS™, LG HI-MACS®, Formica™, DuPont™ Corian®, WilsonArt®, Samsung Staron™, etc.



<b>This Surface</b>	<b>Granite</b>
Non porous and non staining No bacteria growth	Can be stained, being porous can harbor bacteria
Seamless Joints	Joints can gather dirt and harbor bacteria
Refurbishable	Loose luster with time & in contact with mild acids

**Surface Features:**

- Smooth
- Non-absorbent
- Easy to clean
- Non-dirt harboring
- Non-toxic
- Hygienic

**Applications:**

- Vanity Counters
- Kitchen counters
- Restaurant tables
- Fast food counters
- Executive workstations
- Conference tables
- Dining tables
- Centre tables
- Side tables
- Hospital applications
- Laboratories
- and many more

This product is gaining widespread acceptance as a very cost effective replacement of the more expensive products being manufactured, without compromise of quality or life. Substantial exports of this product have been made to Australia and Middle-East.





## 4. Electric Wall Mounted Panel Heater

The panel heater is a safe efficient economic electric heater that simply surface mounts onto interior walls and works by generating convectional air movement which distributes warm air to give background warmth in the room.

The panel heater's insulation is factory tested to resist over 3000 volts and has no exposed metallic parts. The internal heating wire is encapsulated in a special fine resisting resin, thereby making it very safe. In fact it is triple insulated for absolute safety.



The panel heater's heat energy is dissipated at the rate of 100 watts per sq ft (0.09m<sup>2</sup>) and this keeps surface temperatures low. When accidentally touched the non-metallic exterior does not quickly transfer heat and will not cause burning.



With no moving parts and a low temperature element, the panel heater's safety and longevity are assured.

### **Principles of Heat Transmission Explained – Convection Currents and Radiation:**

Hot air rises and get displaced by cooler air. The panel heater uses this principle to create convection current within the room. These currents gradually (and without fan) move the warmed air ambient temperature.

The low operation temperature (below 150°C) of the heating element guarantees its longevity.

Radiant heaters with or without fan, operate with very high temperature heating elements of up to 800°C and merely create a hot zone in a room rather than heat the whole room. This hot zone then gradually dissipates heat to the rest of the room.



### The Panel Heater's Safety Features:

- The panel heater's surface temperature in ambient conditions of 25°C (77°F) should not exceed 90°C (194°F). Momentary contact with temperatures of this magnitude may cause brief discomfort, but not burns.
- Fire retardant, UL Tested, material is used in construction.
- Patented, shaped profile edges (wings) at the top and bottom extremities prevent over heating in situation where accidental or inadvertent coverage occurs.
- No exposed heating element.

### The Panel Heater meets these Certified test Approvals:

Testing Authority	Approval Granted
ELT	ETL Mark for US and Canada Granted by INTERTEK, USA
CE	CE Mark for Europe
CB	CB Mark for CB Scheme Member Countries (32 countries)

### The Panel Heater's Model Range:

- The panel heater is the only heater of its kind with a wide choice.
- Heaters are available in standard international voltages with various plug connection options.
- Available sizes:           250W, 400W and 600W  
                                     800W to special order

### Why the Panel Heater?

1. Because the panel heaters have no inbuilt fans and instead rely on gentle natural, convection currents, there is no noise and no stirred up dust thereby eliminating the airborne dust problem for asthmatics and other allergy suffering people.
2. The panel heaters can be used continuously, even at room temperature reaching 25°C.
3. The panel is the only heater available with 'wings' (patent applied for) to protect the panel from overheating if it is inadvertently covered.
4. The panel heaters attractive slim designs have minimal wall protrusion.
5. The panel heaters can be painted to match the décor of a room.
6. The panel heaters incorporate latest technology and scientific matching of materials.
7. The panel heaters have no exposed electric heating elements.
8. The panel 'no fans design' means no circulated airborne dust.
9. The panel heaters are very economical to run.
10. A 400W heating panel heats a 12m<sup>2</sup> room
11. The panel heaters are designed to be left on for long period of time.
12. The panel heaters are safe for children, disabled persons and pets.
13. The panel heaters are ideally suited for asthma and dust allergy sufferers.



14. The panel heaters won't aggravate respiratory problems.
15. The panel heaters are very easy to install.
16. The panel heaters can be supplied optionally with heat barrier film (patent pending) to avoid heat loss from wall behind.

The panels come supplied with a mounting kit and marking jig.

This product is currently being manufactured for an OEM supplier in USA under their brand name. There is great scope for an OEM format agreement for this product, especially for cold climate destinations such as Canada.



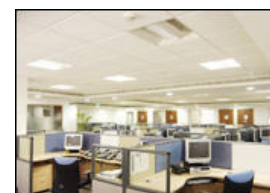
## 5. Lightweight Calcium Silicate Ceilings (CaSiLite)

### Why CaSiLite:

CASILITE is the world's first lightweight calcium silicate ceiling system with several unique features and meets all the requirements of an ideal ceiling from a building designers perspective, and several patents have been applied for CaSiLite.

### Aesthetics:

CaSiLite ceilings are available in a pleasing range of surface texture and design options to meet the most demanding and creative requirements of today's interiors. The design range is available in a wide range of geometric patterns with subtle relief and presents a wealth of exciting possibilities which can be used to create truly inspiring and impressive interiors.



### Humidity and Water Resistance:

CaSiLite ceilings have 100% RH resistance and are not affected by moisture water and extremes of temperature. So, the ceiling does not soften and sag in high humidity environments. CASILITE can be stored, installed and used under all weather conditions including in non air-conditioned buildings. There is also no need to control the temperature variations or to maintain any specified temperature or humidity level in the room by using heaters, dehumidifiers, ventilators air conditioners, etc. This enables quick and easy installation of the ceiling and early occupation and use of the building.



CaSiLite ceilings do not lose their physical integrity even in the case of condensation from air conditioning ducts or in case of any leakage of water from the main ceiling above the suspended ceiling and can be safely used even in industrial and semi exposed locations.

### Fire resistance:

- CaSiLite calcium silicate ceiling are incombustible as per the requirements of BS 476 Part 4.
- They are rated class for spread of flame as per BS 476 Part 7 and class '0' for fire propagation as per BS 476 Part 6.
- CaSiLite ceilings offer unmatched fire protection. Building structures thus remain stable for longer periods during a fire and meet the time rating required by building regulations. This, in turn, allows time for escape and ensures comparative safety to fire fighters. Installers should always select appropriate grid systems for installation of the ceiling, so as not to reduce the tested performance of the ceiling system.



### **Thermal insulation:**

CaSiLite calcium silicates have outstanding thermal insulation properties which are superior to that of any other ceiling material. This helps to maintain room comfort at all times and saves heating and cooling expenses.

### **Acoustics:**

Lightweight calcium silicate is a sound absorbing material that neither transmits nor augments sound. Thus CaSiLite calcium silicate ceiling are perfect for adjusting the acoustics in areas covered by the ceiling by using tiles with perforations and fissures or in combination with plain or design stage. The following should be considered i.e., the applied building materials, surface within the room, volume of the room, soft furnishing, and finally the proposed use of the room.

There are two aspects of acoustics. The sound absorption performance of the tile which deals with the reduction of sound emanating from within the room, and measured as the noise reduction coefficient (NRC) (from 0.1 to 1), and sound attenuation (STA) which deals with the transmission of sound between adjacent areas and measured in decibels (db).

Sound absorption coefficients are measured at various sound frequencies from 125 to 4,000 Hz and noise reduction coefficients (NRC) is the average of the absorption at 250, 500, 1,000 and 2,000Hz. Three factors should be kept in mind while deciding room acoustics. Firstly, the ceiling is only one of the surfaces within a room to ensure that the correct balance between absorption and reflection is achieved. Secondly with the increased use of soft furnishings, ceilings with only moderate sound absorption may be required, if a lifeless environment is to be avoided. In short, too much absorption in a room can be as bad as not enough. Thirdly, the acoustic characteristics of the ceiling should be selected based on the frequencies of sound expected to be encountered in the room which, in turn, depend on the proposed use of the room.

### **Durability:**

CaSiLite ceilings have high flexural strength as a result of their composition and manufacturing process. CaSiLite ceilings have patented densified edges to give high edge strength which minimizes damage in handling, transport, storage and installation of the tiles, besides facilitating demountability as per service requirements.

### **Light Reflectance:**

The excellent light reflectance of CaSiLite ceilings helps to minimize lighting operating expenses besides ensuring maximum effectiveness of indirect lighting.

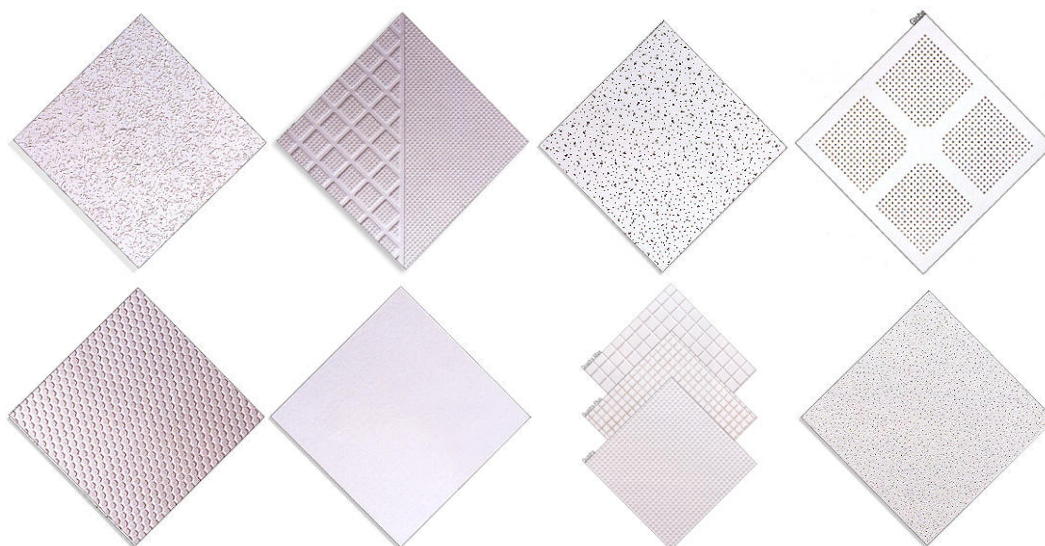


### Termite Resistance:

CaSiLite ceiling ate made from inorganic materials and are immune to termite attack.

### Textures:

- Fine Fissured: Plain surface with fissures & micro perforations
- Spintone: A finely granulated surface with micro perforations
- Cosmos: Lightly textured with micro perforations
- Plain: A natural smooth surface



### Design:

- Quadra: Surface finished with small square studs
- Quadra Plus: Surface finished with 12 min square studs
- Quadra Max: Surface finished with 25 mm square studs
- Hexa: Surface finished with elegant hexagonal studs
- Diagonal: A unique diagonal design to form a pattern
- Linear: Surface finished with a subtle linear pattern

### Applications:

Calcium silicate bestows upon CaSiLite an array of technical characteristics that extend across the entire range on offer. The designer therefore has complete flexibility to work any product from among CaSiLites texture or design range to meet even the most demanding and creative requirements of contemporary interiors. This is in stark contrast to the limitations of most ceiling materials in the terms of some product attribute or the other.



### CaSiLite Technical Data:

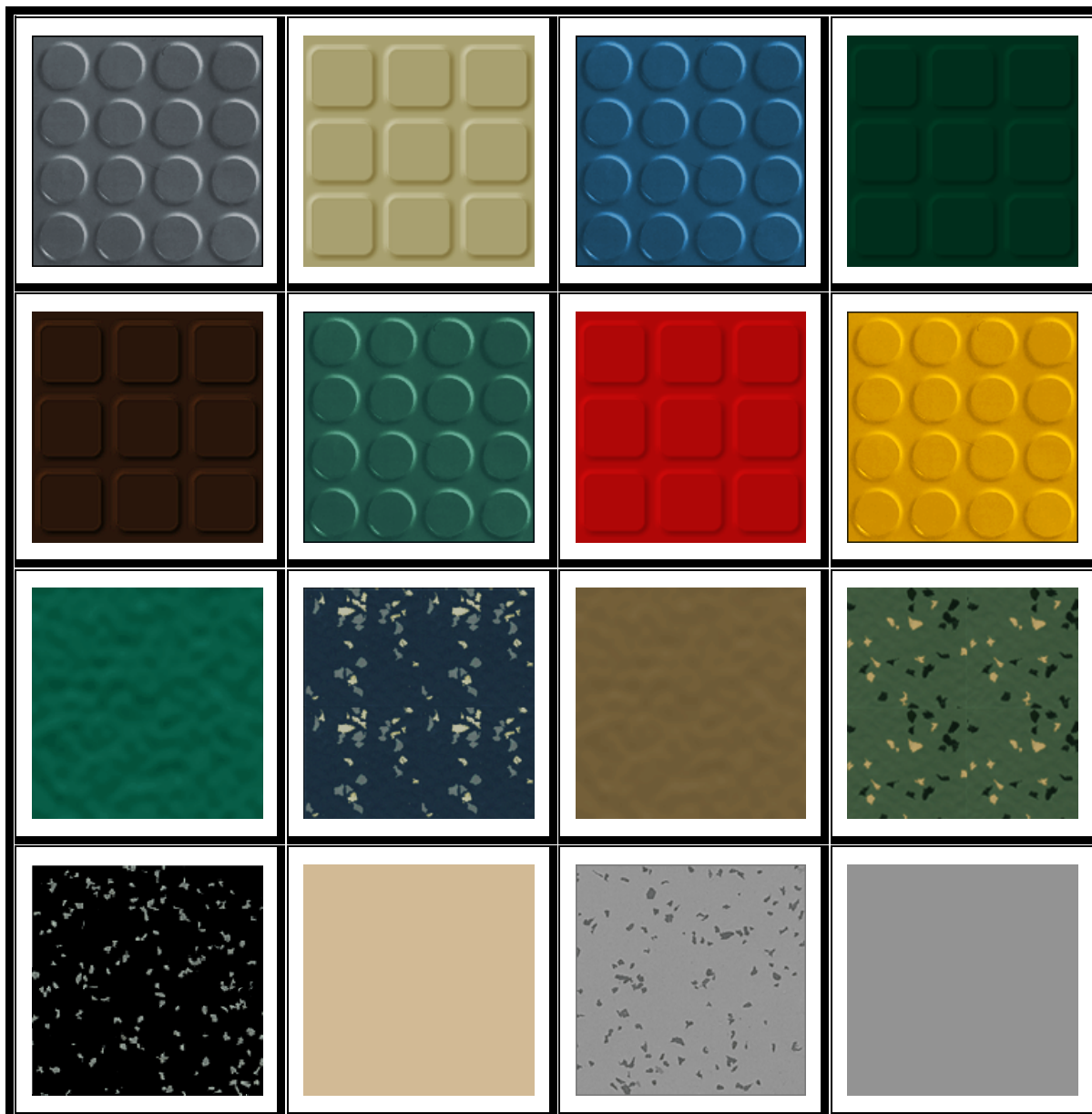
- **Composition:** Hydrated calcium silicate reinforcing fibers and natural fillers. Free from formaldehyde and other harmful materials. Does not contain any toxic ingredients.
- **Manufacturing Process:** Lime and silica are reacted to produce hydrated calcium silicate slurry which is mixed with reinforcing fibers and fillers and molded to form a tile in filter presses. These tiles are dried, trimmed, punched and fissured (if required) and then coated to the required surface finish.
- **Surface:** All tiles are prime coated on both sides. Standard finish in two coats white dispersion type, solvent-free paint.
- **Dimensions:** 600 mm x 600 mm x 15 mm edge. Sizes referred to are always module sizes. The exact or nominal panel size may differ depending on the suspension system used.
- **Density:** 350 – 450 Kg / m<sup>3</sup>
- **Relative Humidity:** 100 % RH resistant
- **Fire Resistance:** Incombustible as per BS 476, Part 4  
Class 1 for spread of flame as per BS 476, Part 7  
Class 0 for fire propagation as per BS 476, Part 6
- **Thermal Conductivity:** 0.043 W / m<sup>°</sup>kC
- **Acoustic Control:** Sound absorption NRC – 0.10 to 0.75 depending on the product.  
Sound attenuation STA – 32 dB.
- **Light Reflectance:** >85%
- **Weight:** 5 – 5.5 KG. / m<sup>2</sup>
- **Suspension System:** Suspension system made of roll-formed hot-dipped galvanized steel

This product capacity is being doubled due to the enormous demand exhibited by the Indian market. Export demand is increasing due to the unique sag free properties of the tile.



## 6. Rubber Flooring Tiles

This product is a versatile synthetic rubber flooring with several unique features, which meets all the functional and aesthetic requirements from a building designer's perspective.



### **Aesthetics:**

The tiles are available in a broad range of colours, surface patterns and designs to meet the most demanding and creative requirements of today's interiors. In addition to the range of solid colours, there are other ranges with multiple colors which present several interesting possibilities, which can be used to create truly exciting interiors.



**Durability:**

The tile is designed to withstand the heaviest traffic. Its exceptional wear resistance and impact attenuation ensures an extremely long life and makes it an ideal choice for high traffic public areas. It resists most chemicals, cigarette scorch and dents from impact and static loads. The natural elasticity of rubber ensures self-healing of most scratches and abrasions.

**Slip Resistance:**

The tile's naturally slip resistant surface ensures safe walking and standing even on ramps, elevators, buses and trains.

**Flexibility:**

The tile does not break or crack on bending and therefore, can be applied on curved and angled surface.

**Fire Safety:**

The tile is difficult to ignite and is self-extinguishing. It is free of toxic substances and no toxic fumes are emitted in case of a fire.

**Sound Absorption:**

The tile's remarkable sound deadening properties minimize footfall sound pollution in high traffic areas and ensure a quiet and pleasant environment.

**Comfort:**

The tile's long resilience ensures high degree comfort while walking and minimizes fatigue while standing for long periods of time.

**Easy to install and maintain:**

The tile can be quickly and easily installed using our recommended adhesives. It is easy to clean and maintain ensuring total satisfaction through out its life. Larger 602 x 602mm size tiles can be installed faster with fewer seams.

**Economics:**

The tile has one of the lowest life cycles costs of any flooring option as a result of its exceptional wear resistance and extremely long life.



## **7. Compact Fluorescent Lamps**

Currently under development, this project is due to be commissioned by May 2010. The plant aims at manufacturing capsules/burners, pin type and retrofit CFL lamps ranging from 1U to 4U configuration in wattages ranging from 5W to 45W. Types of bases and any special requirements will be accommodated as per customers' requirements.

Scope of discussion of off-take, OEM manufacture, etc., exists for this product. State-of-the-art QMS systems are being deployed to ensure adherence with international standards for the products.



## 8. Contact Details

Primary contact for parties interested in the products and technologies mentioned herein is:

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