

# FIRED HEATERS









World class quality delivered within schedule and budget

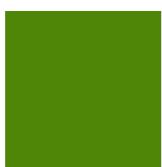
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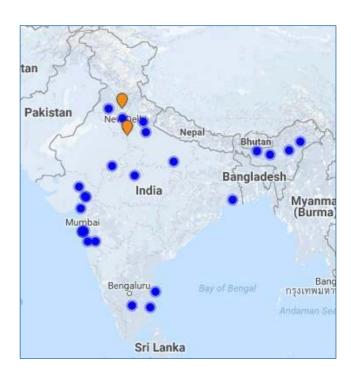


Esteem Projects Put. Ltd.











# **About Esteem**

**Esteem** is a leading supplier and contractor for Fired Heaters, Cracking Furnaces, Reformers, Process Furnaces Waste Heat recovery Units and related equipment to the Hydrocarbon and Chemical industries spanning Oil & Gas, Petrochemical, Refining, Fertilizer and related sectors.

Design, supply and construction of Fired Heaters (from Turnkey projects to revamps) designed to API 560 or other international standards form the core of our business. We have capabilities to provide furnaces based on our own design or the design supplied by clients/consultants.

Over the past 30 years we have built a solid reputation for cost effective reliable and timely services.



# MODULAR HEATERS

















# THE ESTEEM ADVANTAGE

Esteem is one of the pioneers for modular fabrication of Fired Heaters. Where required, we incorporate modularisation into each phase of the project from design to erection. Our design department is well conversant with modular design requirements. We have a fully equipped workshop with facilities to provide refractory lined & dried-out complete heater modules. Keeping in view transportation limitations, modular construction can be executed to any level, even to complete heaters, with platforms, burners, piping, duct work and instrumentation installed.























## Key advantages

- ★ Better quality due to controlled shop environment
- ★ Reduced site activities
- ★ Cost/ time advantages

# Considerations in design

- ★ Structural integrity of modules
- ★ Design for ease of transportation
- ★ Design for ease of erection
- ★ Design for easy interface between parts/ modules
- ★ Ensuring completeness of module in all respects to reduce site activities

### Modularization options

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Radiant Coil Type >	Horizontal	Vertical	Arbor	Vertical Cylindrical
Service	Delayed Coker EDC Cracking Hydrocracker Vaccum Hydrocracker Hydrotreater Charge Reboilers	Steam reforming Ammonia Hydrogen Methanol Ethylene Cracking Hydrocracker	Catalytic Reforming Aromatics	Crude Vaccum Atmospheric Hot Oil Regeneration Most services
Modularization	For wall mounted configuration, entire Radiant can be sent as a single module Alternatively, coils can be transported in hairpins	Entire Radiant can be dispatched in refractory lined condition or in panels Coils can be dispatched in prefabricated bundles ready for field installation	Coils can be supplied in arbors welded to manifolds for shipment and quick installation	These are well suited for modularization Can be dispatched as complete radiant, or petals of shell and coil segments

Many more configurations are possible. Call us to discuss how your next heater or convection section can be supplied in modular form.

## Esteem Projects Pvt. Ltd.

B-39, Sector-67, Noida, UP - 201307, India

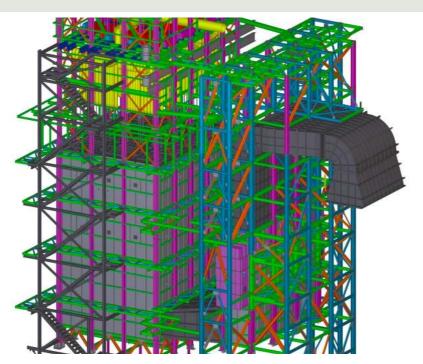
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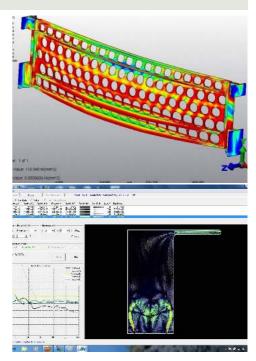
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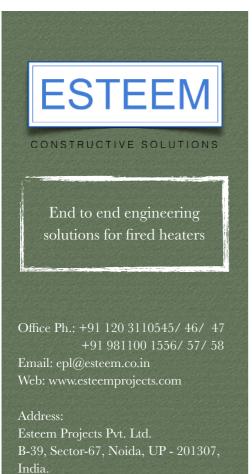


# Design & Engineering

## Fired Heaters | Reformers | Cracking Furnaces

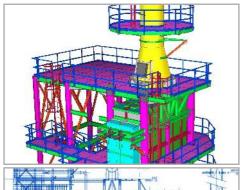


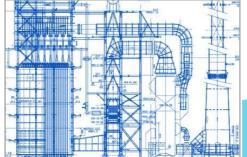


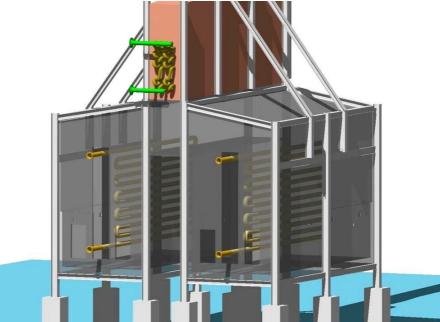


Esteem's design department is fully equipped to handle Fired Heater projects of any size. Our scope of activities includes:

- •Basic and detailed engineering
- •Structural design (Static, Wind, Seismic)
- •Pressure parts design
- •Piping flexibility & stress analysis
- •Connection (joint) design calculations
- •Tube support design
- •Refractory design and detailing
- •Transportation & lifting lug design
- •Design for modularisation
- •3D modelling
- •CFD & FEA
- •Procurement engineering
- •Design and engineering for Dampers









Extensive training and cutting edge software & hardware is what differentiates us from the rest.

- Winheat 4.5 (Fired Heater Rating and Simulation Software)
- Autodesk Plant 3D
- Autodesk Revit
- Autodesk Advance Steel
- Autodesk P&ID, Autodesk MEP, Autodesk Electrical
- Autodesk Structural Analysis for Revit

Available Design & Engineering Software

- Autodesk AutoCad
- Graitec Advance Design
- Bentley STAAD Pro
- ISOMEC
- EasyCFD
- RefCal Pro (Proprietary In-house Refractory Heat Transfer Calculations Software)
- PipeCal Pro (In-house Hydraulic Analysis Software)
- Any many more...

#### Hardware Facilities

- Central file server with redundant storage and power
- Hourly snapshots and online backup
- Latest Thinkcentre Workstations
- Gigabit LAN and VPN Connections

#### **Data Protection**

At Esteem, control of Client's drawings and documents are given top priority. Employees are informed about the usage rights and restrictions and same is strictly enforced.

Safeguarding of data is very important and we have an hourly backup system which ensures minimum data loss in case of unexpected outages.

# **ESTEEM**

CONSTRUCTIVE SOLUTIONS

Office Ph. +91 120 3110545/ 46/ 47 +91 981100 1556/ 57/ 58

Email: epl@esteem.co.in
Web: www.esteemprojects.com

#### Address:

Esteem Projects Pvt. Ltd. B-39, Sector-67, Noida, UP - 201307, India.

## WinHeat ®

Fired Heater Thermal Rating and Simulation Software Suite



- All Fired Heater Configurations
- Property generation package
- Multiple segments and processes
- Configurable for advanced users allowing complex scenarios
- Combustion, Pressure Drop, Refractory, Tube wall calculations in-built
- Tested and Validated (in use since more than two decades)







DHDT Unit Heater (5.26 MMKcal/hr) fabricated and erected by Esteem Projects





Steam Methane Reformer for HGU Unit (40.1 MMKcal/hr) fabricated and erected by Esteem Projects





Naphtha Cracking Furnaces (39 MMKcal/hr x 4 Nos.) fabricated and erected by Esteem Projects





DHDT Unit Heater (12.7 MMKcal/hr) fabricated and erected by Esteem Projects







# REVAMPS AND TURNAROUNDS

- DCU heater rebuilt in-situ in 35 days!
   Efficiency increased by 8%!
- Xylene heater replaced in 14 days flat!
- Crude Heater lifted by 1000mm!
- During emergency shutdown, cast APH tubes replaced by fabricated ones!

HOW CAN WE HELP YOU IN YOUR NEXT HEATER REVAMP OR TURNAROUND PROJECT? epl@esteem.co.in

**Before** After











## CAPACITY AND EFFICIENCY IMPROVEMENT

Esteem provides innovative and cost-effective solutions to increase the capacity or efficiency of existing fired heaters. We provide turnkey services for:

- Radiant box and coil modifications
- Convection section upgrades or replacements
- Burner retrofits
- APH installation / improvement
- Sox/ Nox Improvement

## References

Most of our clients provide us repeat jobs which is a testimonial of our performance.

We shall be glad to provide you contact details of our past clients. Please get in touch!

#### Contact Us!

#### **Esteem Projects Pvt. Ltd**

Email: epl@esteem.co.in

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## EMERGENCY REBUILDS

We specialize in the emergency repair of fire or explosion damaged units. Our wide procurement network allows us to rapidly source and fabricate materials. We provide around-the-clock material sourcing, engineering, fabrication, expediting, transportation, field construction and start-up related services. Esteem has rebuilt entire furnaces in as little as four weeks!

## Commitment!

For us time is everything. We are fanatic about executing the job in the shortest possible time without relenting on job quality. Shutdown projects are handled by the best of our engineers having decades of experience in Fired Heater revamp jobs. We understand that time is the most valuable resource for any refinery or petrochemical plant under shutdown. This is what drives us to exceed client expectations time and again!



# Vibrocast refractory lined pressure vessels



RISER SPOOL PIECE AND

REGENERATED CATALYST STAND PIPE SPOOL PIECE

**DESIGN: ASME SEC VIII** 

REFRACTORY: RESCOCAST 17EC & RESCOBOND

For more information please get in touch with us, we shall be glad to provide prompt response.



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# REFRACTORY SERVICES Design to Installation

Esteem's refractory related services for Fired Heaters, Reformers, Cracking Furnaces, FCCU, and related equipment include:

- ✓ Design & Engineering (including heat transfer calculations)
- ✓ Material selection
- ✓ Detail engineering
- ✓ Procurement & Supply
- ✓ Shop/ Site installation
- ✓ Dry-out services

- √ Testing
- √ Rapid Revamps
- ✓ Specialised Applications
  - √ Vibrocast Lining
  - ✓ Abrasion resistant lining
  - ✓ Reformer Cold collector/ header
  - ✓ Online repairs



To know more, contact us at <u>epl@esteem.co.in</u> or call us at : +91 120 3110545/46/47

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# SPECIALISED APPLICATIONS



# **Vibrocast Lining**

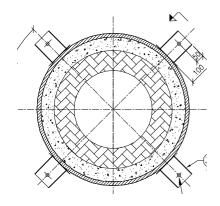
Vibrocast lining requires special skills coupled with detailed planning & preparation.

Esteem has experience of applying in-situ vibrocast lining for vessels, ducts, etc. Past jobs executed include vibrocast lining for **FCCU spool pieces supplied from our works**.

## **Abrasion Resistant Lining**

Esteem has experience of installation of abrasion resistant lining (Rescobond AA 22S or equiv) both at site in-situ locations and at shop. We have experience of lining using Hex Mesh, S-bars, Radius tabs and other kinds of anchorage. Jobs executed include **FCCU cyclones, steam rings/ distributors**, etc.





# Reformer Cold Collector/ Outlet Header

One of the most critical areas of any Reformer Furnace, the Cold Collector / Outlet Header faces the process fluids and is subject to the most demanding environment. Esteem has proven experience of applying this critical refractory.

# Online repairs

Esteem has capabilities to perform on-line repair of furnace castable lining. This avoids downtime and further deterioration of the refractory lining/ casing. If the damage is repaired in time, the repaired lining is able to perform for long durations of time and unnecessary shutdown can be avoided.





To know more, contact us at: epl@esteem.co.in or call us at +91 120 3110545/46/47
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# Core Values

Since inception, Esteem is governed by its core values. They shape the culture and define the character of our company. They are the driving factor behind all our decisions and actions.



#### **Client Value Creation**

We shall strive to create value for client by delivering exceptional products and services in an economical and timely manner.



#### Integrity

Being ethically unyielding, honest and trustworthy by saying what we mean, matching our behaviour to our words and taking responsibility for our actions.



#### Respect

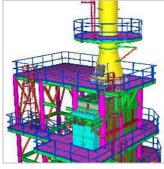
We will value diversity of background and opinion. Demonstrate awareness of our actions and interactions and their impact on clients, co-workers, and our company.



### Sustainability and Stewardship

Fulfilling our obligation of building a better tomorrow, meeting our commitments to stakeholders, developing our people and helping improve communities and the global environment.











# \* Services provided

We provide end to end services for complete life cycle of Fired Heater projects.

- Design
- Detail engineering
- Procurement & Supply
- Shop Fabrication
- Site erection and installation
- Revamps & Rebuilds
- o Pre-commissioning and Commissioning

#### Noida (Head Office & Works)

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#### **Esteem Projects LLC**

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CONSTRUCTIVE SOLUTIONS