
Heating Systems Know-how development

شرکت کانی فرآور کاسپین

Caspian Mineral Processing Eng. Co

About Us

Caspian Mineral Processing Engineering Company (trade name MIN-TEC) established in 2009 by a group of qualified engineers with many years work experiences in copper & iron mine industries In Iran. MIN-TEC objective plans providing engineering, manufacturing and procurement services as an engineering, consultant or Integrated Project Management Solutions.



Our View

World Class Engineering Services, Best Solution for Most Efficiency with Qualified Experts and Engineers

MIN-TEC's plans have been identified in the following priority policies:

- 1 Right recognize our client requirements.
- 2 Well-organized engineers and staffs to present best services.
- 3 Continuous Improvement and development in all levels of MIN-TEC's staffs
- 4 Develop of cooperation with well-known companies around the world to share abilities

We believe to catch the above priority policies, effective cooperation and all engineers and staffs have to act in this manner. Director Manager is responsible to accede the mentioned goals and right recognize and execute the policies. Also our policies will checked and revised by management commission.

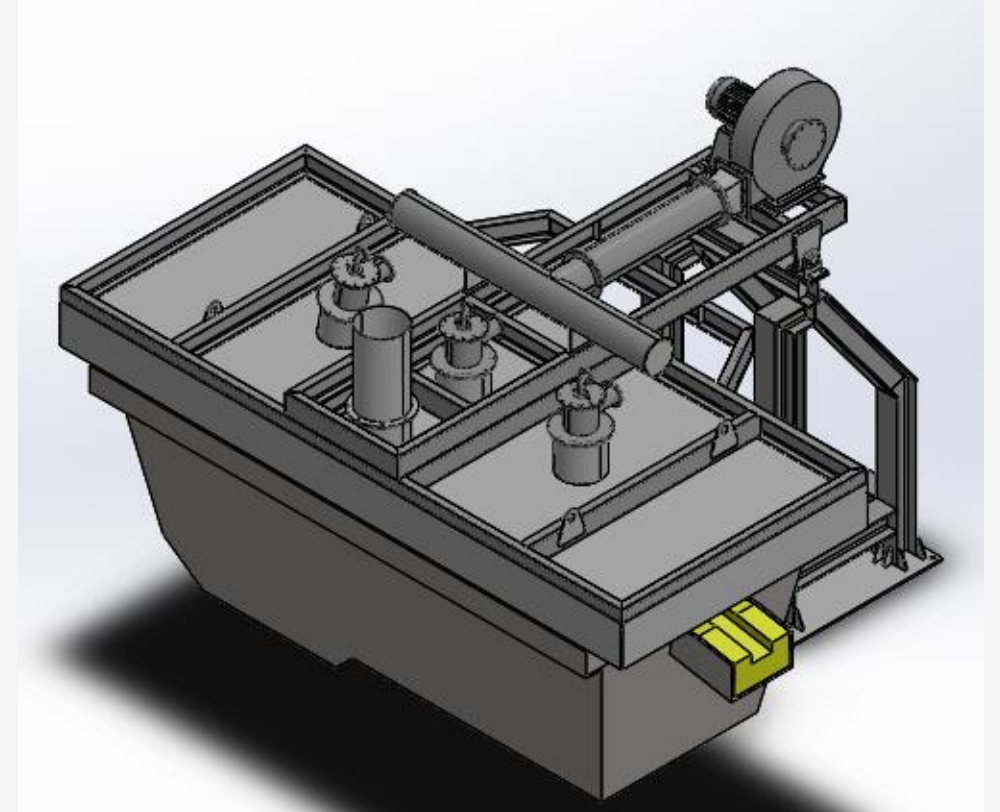
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- Before the engineering Developments have been started, the system concept has been divided into several items but some of them were similar in all under development systems.
- The Eng. Department tried to make a logical way to develop this project in a way that make easier the future Heating Systems using modular modules and components trying to select more easy by the clients.

1 BURNER >CFD Analysis

2 Refractory Re-Engineering

3 Control System



TUNDISH Analytical Model

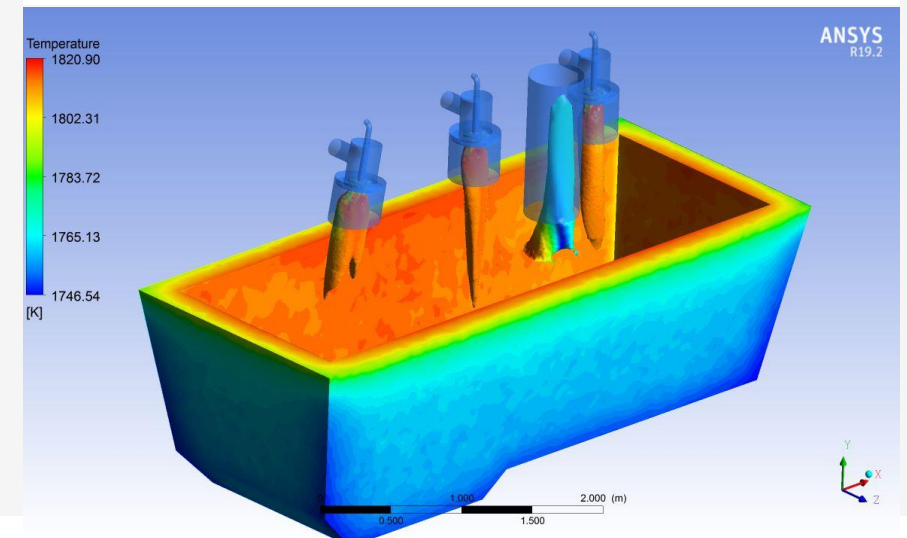
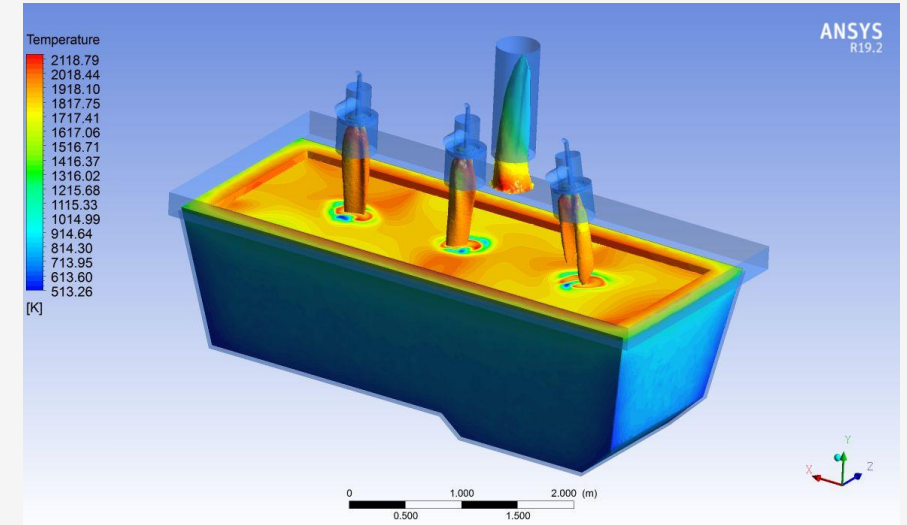
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- BURNER Computational Fluid Dynamics Analysis

1 Thermal conductivity calculation (Ladle & Tundish) to determine and Solve essential equation.

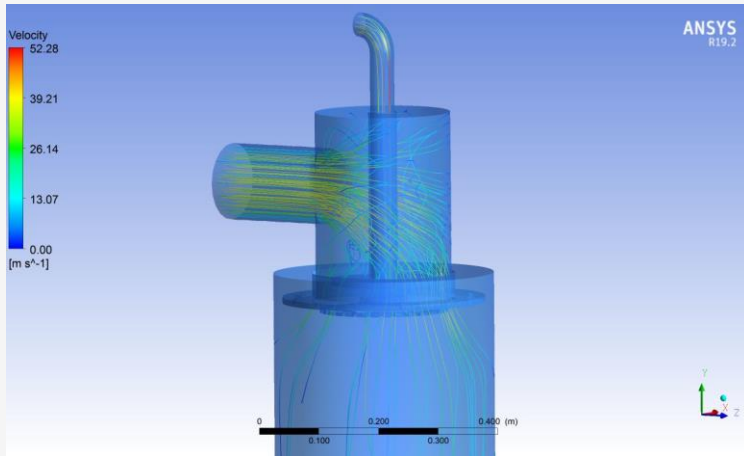
2 **The Results:**

- Temperature Distribution
- Velocity Distribution
- Tundish and Ladle inner Hot Spot & Cold Spot
- Chimney Temperature Distribution
- Orifice Sizing modifications
- Flame Lengths modified according to type of ladle or Tundish
- Fuel Consumption decreased compare to European References
- Refractory Specifications determination based on the existing material

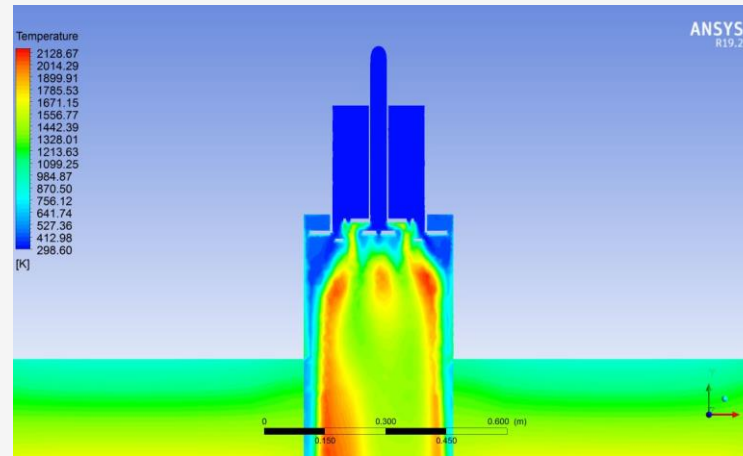


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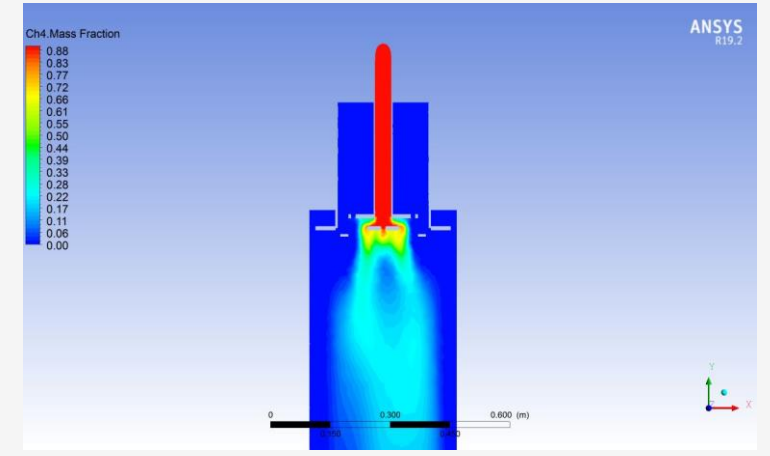
- BURNER CFD (Computational Fluid Dynamics) Analysis



1 Burner Stream Line

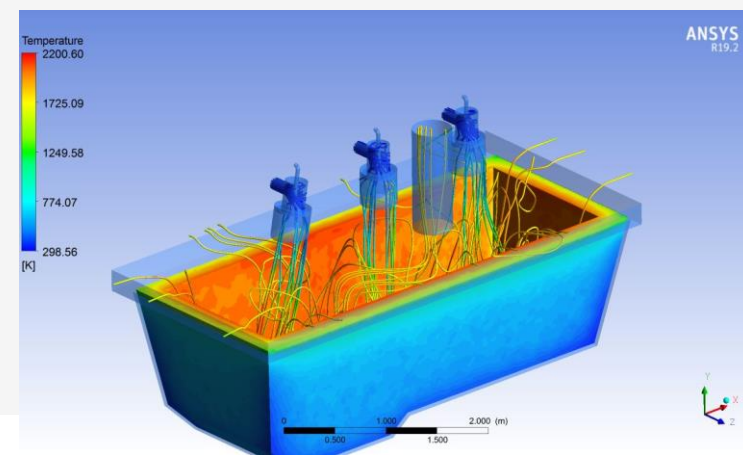
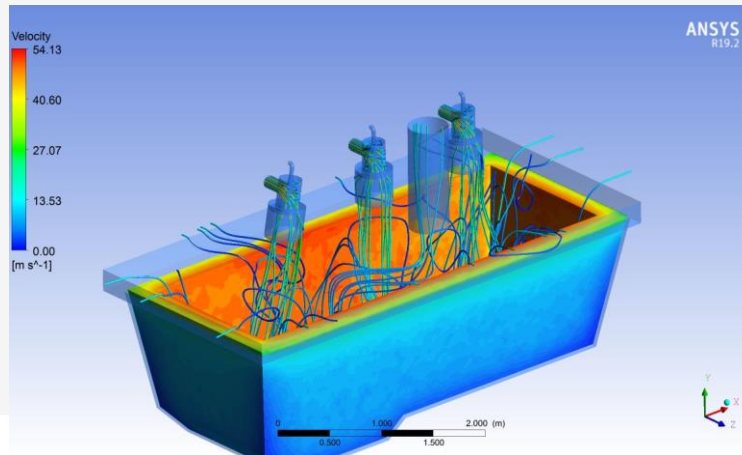


2 Burner Flame Temperature



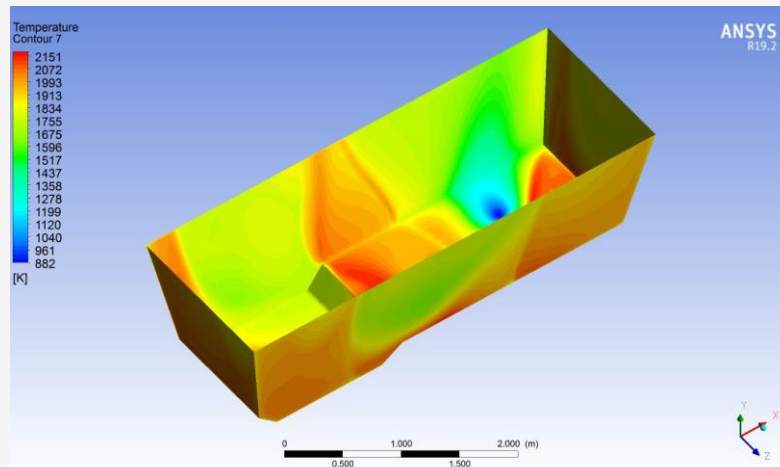
3 CH4 Distribution

4 Streamlines



Heating Systems Know-how tests and Validations

- Data Validation has been started when the Burners manufactured, a pilot tests facilities and the Burners has been tested in several operational conditions. The tests have been done under **CFD** team supervision and the results used as a feed back for our recalculations. Finally these tests, recalculations and computational analysis made some modifications on the Burners , Tundish and Laddle cover Refractorie's Engineering & Design.



Our Partners

- To meet the most accurate process control ;A group of the bests and well-known first class manufacturer have been used to supply the components of the Preheaters & Dryers.

- 1 Burner Controller 
- 2 Safety Valves 
- 3 Control Valves 
- 4 Instrumentation Valves 
- 5 Flame & UV Detectors 

- 6 Gage & Indicators

- 7 Flame Control Special Instrumentations



Our Contact Details:

Austria:



www.cetco-gmbh.com



info@cetco-gmbh.com



• Wollzeile 12/1/25, 1010 Vienna, Austria



• +43 1 7740733

Iran:

www.mintecco.com

info@mintecco.com

• Flat 21, Vatani Alley., Mitra St, Beheshti Ave. Tehran

• +98 21 8852 8803 - +98 21 8852 8092

Thanks for your Attentions