INNOVATIVE SOLUTION FOR ENERGY EFFICIENCY
EMISSPRO® SERVICE PACKAGE:

emisspro® coating service provides superior coating quality by high expertise service team with excellent quality control to maximize furnace thermal efficiency and customer benefit;

- Furnace performance prediction and evaluation
- Refractory installation and maintenance
- Furnace refractory coating
- Supervisory service

<table>
<thead>
<tr>
<th>PROPERTIES</th>
<th>TEST METHODS</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissivity</td>
<td>Pyrometry</td>
<td>0.80-0.95</td>
</tr>
<tr>
<td>Surface strength</td>
<td>ASTM C1624-05 (2010)</td>
<td>&gt;20N</td>
</tr>
<tr>
<td>Adhesion pressure</td>
<td>ASTM D3359-09</td>
<td>&gt;1,000 psi</td>
</tr>
<tr>
<td>Thermal shock resistivity</td>
<td>Alternate heat/cold</td>
<td>12 Cycles</td>
</tr>
</tbody>
</table>

Petrochemical and Refinery      
Steel and Metal Production
BENEFITS OF USING EMISSPRO®

- Substantial improvement of furnace thermal efficiency
- Reduce heating time in furnaces
- Turn industrial furnaces to green combustion; less fuel gas consumption and less emission of green house gas (GHG)
- Prolong service life of furnace lining materials
- Cost effectiveness

PAST SUCCESS

**Type:** Olefins Plant  
**Capacity:** 1,200,000 Ton/Year  
**Coated:** 12 Furnaces  
**Date applied:** July 2009  
**Fuel saving:** 7,500 Ton/Year  
**GHG reduction:** 20,000 Ton/Year

**Type:** Olefins Plant  
**Capacity:** 1,700,000 Ton/Year  
**Coated:** 8 Furnaces  
**Date applied:** February 2012  
**Fuel saving:** 9,000 Ton/Year  
**GHG reduction:** 25,000 Ton/Year

**Type:** Hot rolling steel plant  
**Capacity:** 400,000 Ton/Year  
**Coated:** 1 Furnace  
**Date applied:** July 2013  
**Fuel saving:** 600 Ton/Year  
**GHG reduction:** 1,650 Ton/Year

**Type:** Ceramic tile production  
**Capacity:** 20,000,000 M²/Year  
**Coated:** 8 Furnaces  
**Date applied:** April 2012  
**Fuel saving:** 525 Ton/Year  
**GHG reduction:** 1,450 Ton/Year

INFRARED THERMOGRAM OF AN OLEFIN FURNACE

BEFORE  
AFTER
EMISSPRO® APPLICATIONS:

emisspro® high emissivity coating is used in high temperature industrial applications such as fired heaters, furnaces, refinery and petrochemical industries, etc.

The various substrates are applicable with high emissivity coating such as firebrick, insulating firebrick, high alumina brick, castable refractory, plastic refractory and ceramic fiber.

- **PETROCHEMICALS AND REFINERY**
  Olefins production process, Refinery feed pre-heating process, Monomer production process and Reforming process

- **STEEL AND METAL PRODUCTION**
  Reheating process, Annealing process

**ABSORBED & RE-RADIATED ENERGY**