PROLOGUE

We are an Abu Dhabi-based steelmaker located in the Industrial City of Abu Dhabi, Musaffah. The company is the only integrated steel plant in the UAE, utilizing the latest technology to produce high quality structural steel sections.

Established in 1998, Emirates Steel has expanded and evolved to produce liquid steel from the Direct Reduced Iron process route using Iron Oxide Pellets for feedstock. Semi-finished products, beam blanks, are cast using liquid steel produced in the electric arc furnace.

We look forward to working with you.

Emirates Steel
BUSINESS OVERVIEW

Ownership
100% owned by Senaat, Government of Abu Dhabi.

Total Production Capacity
3.5 million tons of finished long products per year.

Plant Area
2 square kilometers from 800,000 square meters in 2006.

Environment
Emirates Steel sequesters up to 730,000 tons of CO2 annually = Planting around 100,000 trees.

Domestic vs Export Split
Locally: 75% Export: 25%

Staffing

Asset Value
$3 billion (11 billion UAE dirhams).

Year of Establishment
1998.

Annual Revenues
2006: AED 0.6 billion (c. US$ 1.8 billion).

Domestic Market Share
2013: 65%.

Feedstock of Raw Materials
5 million tons per year of iron oxide pellets.

2013: 20%.

Domestic Revenues
2013: AED 6.5 billion (c. US$ 1.8 billion).
THE MILL: QUICK FACTS

- Capacity 90,000 tons per month
- Fully integrated structural steel mill commissioned in 2011
- Imports of Iron Oxide Pellets from Brazil, Canada and Sweden (68% Fe content)
- Direct Reduced Iron feedstock
- Melt shop (Electric Arc Furnace)
- Beam Blanks
- Reheat Furnace
- Hot Rolling Mill (Cold Saw)
- Bundling and Strapping
- Dispatch by road transport direct to GCC customers
- Road transport to UAE ports for export destinations
Our heavy sections rolling mill started production in early 2012 signaling the establishment of Emirates Steel as the largest manufacturer and supplier of structural steel sections in the Middle East.

Our valued clients in the region and beyond are now enjoying the benefits of having a world class steel producer that understands and meets their requirements in terms of product consistency, dimensional accuracy made-to-order products, short lead time, on-time delivery and commercial competitiveness as their strategic business partner.

Our ability to produce a wide range of sizes in BS4, Euro-code and W standards that meet the need of customers and projects with special sizes and lengths up to 24 m as well as our quality manufacturing performance and delivery precision have further strengthened our market position as an integral part of our clients’ supply chain structure.

We look forward to working with you and assure you of our best and prompt attention at all times.

SAEED GHUMRAN AL ROMAITHI
CEO, EMIRATES STEEL
PRINCIPLES: Business is conducted in accordance with rigorously applied ethical, professional and legal standards.

ACCOUNTABILITY: At each level management is responsible and accountable for executing their specific responsibilities and functions and thereby, on a consolidated basis, the full team takes responsibility for delivering the results required by the stakeholders.

FEEDBACK: Open communications throughout the workplace enables all employees to receive feedback on their performance and on the performance of the Company as a whole.

EMPOWERMENT: Individuals perform best when they take responsibility for their areas of functionality – they manage their responsibilities, take ownership and responsibility, and delegate tasks effectively to their team members. Managers are responsible for building the skills and the development of their teams.

PLANNING: Having a vision of the future and a clear ‘roadmap’ as to how the Company will achieve its objectives. In addition, the Company encourages innovation and continuous improvement, and champions continuous learning.

RESPONSIVENESS: Responsiveness to our customers’ needs keeps us ahead of our competition.

VISION
To be a world class steel manufacturer providing the highest quality products, services and solutions to our customers and maximizing returns to our shareholders.

MISSION
➢ To provide the construction, manufacturing and industrial sectors with their requirements of high quality steel products.
➢ Maintain safe and environmentally friendly work practices across our operations.
➢ Create employment opportunities and inspire our workforce to excel.
➢ Contribute to the industrialization and diversification of the UAE economy in line with Abu Dhabi’s Vision 2030.

CORE VALUES
➢ Honesty, Integrity, Creativity, Innovation and Quality.
➢ Pursuit of continuous improvement across all aspects of our business.

MANAGEMENT STYLE
➢ We are known for having a vision of the future and a clear ‘roadmap’ as to how we will achieve our objectives.”
Emirates Steel is one of the largest producers of sections in the Middle East. UC CARES has approved the Company’s structural steel products for the CE Mark / European Safety Certification together with the Factory Certificate for South East Asian Countries.

**HSM PRODUCT RANGE**

Emirates Steel is one of the largest producers of sections in the Middle East. UC CARES has approved the Company’s structural steel products for the CE Mark / European Safety Certification together with the Factory Certificate for South East Asian Countries.

**HSM PRODUCT FAMILIES**

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>STANDARDS</th>
<th>WEB WIDTH MM</th>
<th>LINEAR WEIGHT KG/M</th>
</tr>
</thead>
<tbody>
<tr>
<td>British Parallel/Flange Universal Beams UB</td>
<td>BS 4 - 1, BS En 10025, BS En 10225</td>
<td>254 – 1016</td>
<td>31.1 – 494.0</td>
</tr>
<tr>
<td>British Parallel/Flange Universal Columns UC</td>
<td>BS En 10025, BS En 10225</td>
<td>203 – 356</td>
<td>46.1 – 634.0</td>
</tr>
<tr>
<td>British Parallel/Flange Universal Piles UBP</td>
<td>BS 4 - 1, BS En 10025, BS En 10225</td>
<td>203 – 356</td>
<td>46.1 – 314.0</td>
</tr>
<tr>
<td>European Wide flange Beams hE</td>
<td>EN 53-62, En 10034</td>
<td>200 – 1000</td>
<td>34.6 – 343.5</td>
</tr>
<tr>
<td>Indian Standard nPB</td>
<td>IS 2062</td>
<td>254 – 1016</td>
<td>31.1 – 494</td>
</tr>
<tr>
<td>Indian Standard WPB</td>
<td>IS 2062</td>
<td>254 – 1016</td>
<td>31.1 – 494</td>
</tr>
</tbody>
</table>

**PRODUCT GRADES**

- **HSM PRODUCTS TO INTERNATIONAL STANDARDS**
  - **UB**: Universal Beam
  - **UC**: Universal Column
  - **PfC**: Parallel Flange Channel
  - **UBP**: Universal Bearing Pile
  - **hE**: European Wide Flange Beam
  - **IPE**: European narrow Flange Beam
  - **W**: American Wide Flange Beam
  - **nPB**: Indian Narrow Parallel Beam
  - **WPB**: Indian Wide Parallel Beam
  - **MCP**: Indian Medium Parallel Channel

**EMIRATES STEEL SHEET PILES**

- **S235JR, S235J0, S235J2**
- **S275JR, S275J0, S275J2**
- **S355JR, S355J0, S355J2**
- **ASTM A36, A572 Grade 50, A992**
- **En 10248 S355gP**
- **IS 2062 E250A, E250BR, E250BO**
- **IS 2062 E275A, E275BR, E275BO**
- **IS 2062 E300A, E300BR, E300BO**
- **IS 2062 E350A, E350BR, E350BO**

**PRODUCT**

- **STANDARDS**: BS-En 10248, En 10034
- **WEB WIDTH**: 630mm
- **MODULUS**: 180000N/mm²

Note: Other ranges and norms are available by request within the above maximum and minimum sizes.
OVERVIEW

NAMEPLATE CAPACITY
1,000,000 metric tons annual output

HSM PROCESS DESCRIPTION

GRAPHIC

DISPATCH
BENDING
COOL SAW
STRAIGHTENING
HOT SAW
PADDLE MILL
HOT SAW
Cooling

BUNDLES WEIGHTS & LENGTHS

<table>
<thead>
<tr>
<th>Bar Length</th>
<th>Minimum</th>
<th>Standard</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bar Length</td>
<td>6.0m</td>
<td>12.0m</td>
<td>24.0m</td>
</tr>
<tr>
<td>Bundle Weight</td>
<td>2.6 tons</td>
<td>5.0 tons</td>
<td>8.0 tons</td>
</tr>
</tbody>
</table>

BAR LENGTHS

- Lengths are available in 0.1m increments; commercial tolerance on length is -0 + 100mm.
- Number of pieces at any given length is subject to minimum tonnages.

BUNDLES

- Standard bundles are configured around a 5 ton nominal.
- The number of bars in a bundle varies from 1 to 36.
- Bundles up to 8 tons can be produced by request.
- Single bars heavier than 2.5 tons are dispatched as individual items.

FEEDSTOCK

<table>
<thead>
<tr>
<th>TYPE</th>
<th>SIZE (MM)</th>
<th>LINEAR WEIGHT (KG/M)</th>
<th>LENGTH (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beam Blank</td>
<td>450x350x90</td>
<td>680</td>
<td>5 – 12</td>
</tr>
<tr>
<td>Beam Blank</td>
<td>480x350x90</td>
<td>750</td>
<td>5 – 12</td>
</tr>
<tr>
<td>Beam Blank</td>
<td>510x470x100</td>
<td>1084</td>
<td>5 – 12</td>
</tr>
<tr>
<td>Beam Blank</td>
<td>670x350x90</td>
<td>862</td>
<td>5 – 12</td>
</tr>
<tr>
<td>Beam Blank</td>
<td>1050x460x120</td>
<td>1692</td>
<td>5 – 12</td>
</tr>
<tr>
<td>Bloom</td>
<td>350x220</td>
<td>626</td>
<td>5 – 12</td>
</tr>
</tbody>
</table>

Heat Treatment

- AR - As Rolled
- M - Thermo-Mechanical Control Rolled

Maximum Flange Thickness

- 58.0MM
MILL EQUIPMENT
All mill line equipment was supplied by Danieli Morgardshammer, Italy.

REHEAT FURNACE
Purpose: To heat feedstock to the required rolling temperature.

<table>
<thead>
<tr>
<th>Type</th>
<th>Walking Beam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>1</td>
</tr>
<tr>
<td>Fuel</td>
<td>Natural Gas</td>
</tr>
<tr>
<td>Number of Fixed Beams</td>
<td>4</td>
</tr>
<tr>
<td>Maximum Throughput</td>
<td>250 tph (cold charge)</td>
</tr>
<tr>
<td>Inside Width</td>
<td>13m</td>
</tr>
<tr>
<td>Effective Heating length</td>
<td>33.5 m</td>
</tr>
<tr>
<td>Inside Length</td>
<td>34.5m</td>
</tr>
<tr>
<td>Charging Temperature</td>
<td>20 – 500 deg C</td>
</tr>
<tr>
<td>Hot Charge Available</td>
<td>as direct feed from CCM</td>
</tr>
<tr>
<td>Maximum Operating Temperature</td>
<td>1350 deg C</td>
</tr>
<tr>
<td>Max Discharge Temperature</td>
<td>1280 deg C</td>
</tr>
<tr>
<td>Specific Productivity</td>
<td>620 kg/m²h</td>
</tr>
<tr>
<td>Feedstock Length Range</td>
<td>from 5m to 12m</td>
</tr>
<tr>
<td>Charging &amp; Discharging</td>
<td>side loading, lift in and lift out charging machines</td>
</tr>
</tbody>
</table>

DESCALER
Purpose: Cleaning iron oxide or scale formation from the surface of the feedstock, prior to rolling, to ensure optimum surface quality.

<table>
<thead>
<tr>
<th>Type</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Pressure</td>
<td>250 bar</td>
</tr>
<tr>
<td>Descaling Speed</td>
<td>up to 1.8 m/s</td>
</tr>
</tbody>
</table>
HOT SAW

Purpose: Cropping of bar ends as and when required.

- **Type**: Metallic disc saw
- **Max Blade Diameter**: 2400mm
- **Blade Thickness**: 16mm
- **Max Peripheral Speed**: 120m/s approx.
- **Cutting Speed**: 350mm/s (profile dependent)

BREAKDOWN MILL

Purpose: Reducing the size of the feedstock into the correct shape for rolling in the Universal Tandem Mill.

- **Type**: Closed housing duo / 2-high stand
- **Roll barrel length**: 2800mm
- **Roll barrel dia**: 603.2mm
- **Max roll dia**: 1350mm
- **Roll Materials**: Cast or forged Steel
- **Max Rolling Speed**: 5 m/s
- **Max working center line distance**: 2200mm
- **Main Drive Power**: 5.5MW + 250% peak overload
- **Main Reduction Ratio**: 6:1

---

**Notes**:
- HOT SAW 1
- Breakdown Mill
HOT SAW 2

**Purpose:** Sub-dividing rolled lengths, tail cropping and taking sample pieces for measurement and metallurgical testing processes.

**Type:** Metallic disc saw

Max Blade Diameter: 2400mm

Blade Thickness: 16mm

Max Peripheral Speed: 120m/s approx.

Cutting Speed: 350mm/s (profile dependent)

Maximum Back Crop length: 1.5m

Sample length: 50 - 700mm

---

TANDEM MILL

**Purpose:** Final rolling of the finished product.

**Type:** 3 stand, close coupled, Universal or duo configuration group.

Roll Barrel length (uni / duo): 1000 / 2200mm

Roll neck dia: 501.6mm

Max horizontal Roll dia: 1440mm

Max vertical Roll Diameter: 980mm

Roll Materials: High-Chrome cast iron, forged steel, cast steel

Max Rolling Speed: 8 m/s

Max horizontal Working Center line Distance: 1500mm

Max vertical Roll Working Center Distance: 2180mm

Roll Materials: high-Chrome cast iron, forged steel, cast steel

Max Rolling force (max Roll): 16000kn

Main Drive Power, each stand: 5.5MW + 250% peak overload

Gearbox Reduction Ratio: 6:1

Number of Runs: from 3 to 11

---

DIMENSIONAL PROFILE GAUGE

**Purpose:** On-line measurement of the hot profile along the full length with real-time feedback to operators.

**Type:** Danieli “Hi-Profile”

Number of Lasers: 6

Number of Cameras: 6

Measurement Frequency: 200ms

---

HOT SAW 2

**Purpose:** Sub-dividing rolled lengths, tail cropping and taking sample pieces for measurement and metallurgical testing processes.

**Type:** Metallic disc saw

Max Blade Diameter: 2400mm

Blade Thickness: 16mm

Max Peripheral speed: 120m/s approx.

Cutting Speed: 350mm/s (profile dependent)

Maximum Back Crop length: 1.5m

Sample length: 50 - 700mm

---
PILING AND BUNDLING

Purpose: Collecting of cut bars into bundles.

Type: Magnetic Rotating Head

- Number in use: 2
- Length: 30m and 18m
- Max. Weight: 1000kg/m

ROLLING STRAIGHTENING MACHINE

Purpose: Straightening of cold material, to recover distortion caused by cooling.

Type: Double-supported Walking Beam
- Number of Shafts: 9 - "S" type
- Max. Roll Diameter: 1300mm
- Roll Pitch: 2000mm
- Max. Roll Barrel Length: 1000mm
- Max. Speed: 4.6m/s
- Tilting: 2 x 90 Degrees Product Dependent
- Straightening Temperature: < 80°C

COOLING BANK

Purpose: Cooling of material to straightening temperature.

Type: Walking Beam
- Length: 96m
- Width: Ingoing to Outgoing Roller Table Distance: 40m
- Tilting: 2 x 90 Degrees Product Dependent
- Max. Walk Pitch: Product Dependent

ROLLER STRAIGHTENING MACHINE

Purpose: Straightening of cold material, to recover distortion caused by cooling.

Type: Double-supported Walking Beam
- Number of Shafts: 9 - "S" type

COLD SAWs

Purpose: Final cutting to customer ordered length.

Type: Metallic Disc Saws
- Number: 4, 3 fixed and 1 moveable
- Max. Blade Diameter: 2400mm
- Blade Thickness: 16mm
- Cutting Speed: 120m/s approx.
- Cutting Length Range: 6m to 24m

STRAPPING MACHINE

Purpose: Trapping together the bundle, along with bundle ID tag.

Type: Sundbirsta
- Max. Stack Dimensions: 1200mm x 1200mm
- Strap Width: 23mm
- Strap Thickness: 0.8mm - 1mm
- Number of Straps: Minimum 4 - bundle length dependent
### Component Calculation

<table>
<thead>
<tr>
<th>Component</th>
<th>DRI, Hot (%)</th>
<th>DRI, Cold (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>feto</td>
<td>90.98</td>
<td>90.98</td>
</tr>
<tr>
<td>femet</td>
<td>85.52</td>
<td>85.52</td>
</tr>
<tr>
<td>Metalisation</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>Fe</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Si</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mn</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SiO2</td>
<td>1.71</td>
<td>1.71</td>
</tr>
<tr>
<td>CaO</td>
<td>1.39</td>
<td>1.39</td>
</tr>
<tr>
<td>Al2O3</td>
<td>0.85</td>
<td>0.85</td>
</tr>
<tr>
<td>MgO</td>
<td>0.58</td>
<td>0.58</td>
</tr>
<tr>
<td>H2O</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Misc.</td>
<td>0.37</td>
<td>0.37</td>
</tr>
<tr>
<td>Total 4.95% gangue</td>
<td>4.95</td>
<td>4.95</td>
</tr>
<tr>
<td>fines &lt; 5 mm</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Temperature, C</td>
<td>600</td>
<td>30</td>
</tr>
</tbody>
</table>

#### ELECTRIC ARC FURNACES

**EAF Type**
- AC full platform, split shell, DFT system, conductive arms, 1 wall supersonic oxygen system, 1 DANTAC Modules System (4 Oxy-jet, 3 Carbon-jet, 1 wall fine lime jet), HIREg. Digital Electrodes Regulation System

**Temperature, C**
- 600

**Pick-up Time**
- 38 to 46 min pending on charge type

**EAF Optimal Productivity**
- 135 t/h to 236.7 t/h (100% hot DRI and 10% cold DRI charge)

**Ladle Furnace**

**Ladle Handling System**
- 1 ladle tapping car

**Charging Material**
- 100% hot DRI continuous feeding through 5th hole scrap bucket for hot heel generation at the beginning of campaign

**Transformer Size**
- 130 MVA + 20% overload

**Electrode Arm Type**
- Conductive

**Max Power (approx.)**
- 115.1 MW

**Tap to Tap Time**
- 38 to 46 min pending on charge type

**EAF Hourly Productivity**
- 135 t/h to 236.7 t/h (100% hot DRI and 10% cold DRI charge)

**Roof Typology**
- Inert roof with lifting / lowering system

**Transformer Size**
- 24 MVA + 20% overload

**Arms Typology**
- Conductive type
CONTINUOUS CASTING MACHINE

Machine Type: Curved
Number of Strands: 5
Machine Radius: 12m
Unbending: 12/18 / 16/35 / 35°/38° in m
Casting Billet Section: 150 x 150 mm
Casting Bloom Section: 220 x 350 mm
Casting Beam Blank Section: 280 x 350 x 90

Secondary Cooling System
Zone 1 water
Zone 2 water
Zone 3 water
Zone 4 water

Unbending
Zone 1 water
Zone 2 water
Zone 3 water
Zone 4 water

Cutting Start Position from Meniscus: 29.63 m
Max Metallurgical Length: Approx. 26 m (220 x 350 mm @ 1.5 m/min)
Withdrawal Speed Range: 0.25 ÷ 5 m/min
Billet Cutting: Oxy-cutting torch (single torch - double torch for emergency)
Cutting Length: 6, 12 and 14 m for billet section from 4 to 6 m (double row) and from 7.5 to 12 m for blooms and bloom blanks

Discharge System
Transfer roller table for blooms and beam blanks
One lateral liftable transfer car
Cooling bed (28 m for billets, 2 x 15 m for blooms and bloom blanks)

CONTINUOUS CASTING MACHINE

Machine Type: Curved
Number of Strands: 5
Machine Radius: 12m
Unbending: 12/18 / 16/35 / 35°/38° in m
Casting Billet Section: 150 x 150 mm
Casting Bloom Section: 220 x 350 mm
Casting Beam Blank Section: 280 x 350 x 90

Secondary Cooling System
Zone 1 water
Zone 2 water
Zone 3 water
Zone 4 water

Unbending
Zone 1 water
Zone 2 water
Zone 3 water
Zone 4 water

Cutting Start Position from Meniscus: 29.63 m
Max Metallurgical Length: Approx. 26 m (220 x 350 mm @ 1.5 m/min)
Withdrawal Speed Range: 0.25 ÷ 5 m/min
Billet Cutting: Oxy-cutting torch (single torch - double torch for emergency)
Cutting Length: 6, 12 and 14 m for billet section from 4 to 6 m (double row) and from 7.5 to 12 m for blooms and bloom blanks

Discharge System
Transfer roller table for blooms and beam blanks
One lateral liftable transfer car
Cooling bed (28 m for billets, 2 x 15 m for blooms and bloom blanks)
The HSM laboratory carries out the mechanical tests that are required to guarantee the mechanical integrity of the final product. Among the many tests that are performed in the laboratory:

- Hardness test.
- Tensile Testing, Stress – strain measurements.
- Metallographic assessment of as-cast and rolled microstructure.
- Mounting, Grinding and Polishing.
- Sample Preparation Using Shadow Graph for Toughness Testing.
- Charpy impact testing for fracture toughness measurements.

Emirates Steel’s 1 million ton heavy section mill, the largest of its kind in the Middle East, rivals the most advanced in the world, positioning the steelmaker at the center of excellence for the effective use of structural steel.

QUALITY CONTROL

Emirates Steel maintains and operates the quality standards recognized throughout the world and our certificates are attached.

This QA system has the following objectives:

1. To guarantee the process conditions in all production stages, with regard to the physical, chemical and metallurgical characteristics.
2. To ensure thorough inspection of the finished product so as to guarantee full compliance with the specifications.
3. To collect, process and assess the obtained results in order to implement a system of continuous improvement.

QUALITY ASSURANCE
End Users include GCC oil companies with major projects for ADNOC and Saudi ARAMCO.

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Country</th>
<th>Structural Steel Sold (metric tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yanbu III</td>
<td>Saudi Arabia</td>
<td>6,000</td>
</tr>
<tr>
<td>Kuwait National Bank</td>
<td>Kuwait</td>
<td>3,000</td>
</tr>
<tr>
<td>Qatar Foundation Refurb Development</td>
<td>Qatar</td>
<td>2,000</td>
</tr>
<tr>
<td>PetroRabigh</td>
<td>Saudi Arabia</td>
<td>20,000</td>
</tr>
<tr>
<td>Takreer Carbon Black Project</td>
<td>UAE</td>
<td>8,000</td>
</tr>
<tr>
<td>Kemya</td>
<td>Saudi Arabia</td>
<td>6,000</td>
</tr>
<tr>
<td>Abu Dhabi International Airport Expansion</td>
<td>UAE</td>
<td>12,000</td>
</tr>
<tr>
<td>Emirates Aluminum</td>
<td>UAE</td>
<td>6,000</td>
</tr>
<tr>
<td>Maaden Aluminum Smelter</td>
<td>Saudi Arabia</td>
<td>6,000</td>
</tr>
</tbody>
</table>
The company is well positioned both geographically and strategically to become the region’s major supplier to steel-intensive construction, oil & gas, petrochemical and infrastructure projects. A significant proportion of our structural sections are being sold in the GCC market, while the remainder is exported outside the region to Arab countries, Europe, America, Australasia, the Indian subcontinent, and Asia.
HEALTH AND SAFETY

Emirates Steel is fully committed to enhance safety practices in the workplace, thus making health and safety the Company’s number one priority. To achieve this, Emirates Steel is pursuing continuous improvement through the implementation of a behavioral safety program designed to improve awareness. All employees and contractors are encouraged to act safely and report unsafe acts and conditions so that action can be taken to remove or control a potential hazard. Health and safety training is offered to all employees and is supplemented with focused campaigns to further improve the health and safety culture. An online reporting system using the latest technology is used to capture near and actual incidents to ensure that corrective action is taken in real-time.

This is all underpinned by a comprehensive health and safety management system that puts in place robust procedures to control or mitigate risk.

HEALTH AND SAFETY

Emirates Steel is fully committed to enhance safety practices in the workplace, thus making health and safety the Company’s number one priority. To achieve this, Emirates Steel is pursuing continuous improvement through the implementation of a behavioral safety program designed to improve awareness. All employees and contractors are encouraged to act safely and report unsafe acts and conditions so that action can be taken to remove or control a potential hazard. Health and safety training is offered to all employees and is supplemented with focused campaigns to further improve the health and safety culture. An online reporting system using the latest technology is used to capture near and actual incidents to ensure that corrective action is taken in real-time.

This is all underpinned by a comprehensive health and safety management system that puts in place robust procedures to control or mitigate risk.

A strict system of inspections and audits at all levels of the company structure has been designed to provide a framework for self-regulation and continuous performance improvement.

Emirates Steel is committed to the health, safety and wellbeing of its employees and recognizes occupational health as an integral part of its business performance.

The Company is also committed to continued compliance to all environmental regulations, to protect present and future human wellbeing in our local environment.

Our employees are educated in the rules of environmental compliance required by our Company, and are trained to respond, if necessary, to any threat to the environment. All Emirates Steel facilities are being developed to reduce the Company’s environmental footprint.

Over the years, the Company has improved its processes and controls, invested capital to increase efficiency and decrease energy use and has fostered a culture of resourcefulness and accountability.
GREEN INITIATIVES

Emirates Steel strives to minimize the environmental impact of its industrial activities in different stages of its operations process. The Company is committed to adopting the latest innovations in energy efficiency and sustainable practices.

To achieve its environmental commitments, Emirates Steel addresses issues on sustainability at the early stages of any expansion project. During the design process, the Company develops a life cycle economic model that examines environmental and cost implications of process choice and the new technology to be adopted.

ENERGY CONSERVATION

Emirates Steel’s energy conservation initiative starts by selecting the low impurities raw materials and ferro-alloys. The Company is committed to procure iron ore pellets with high iron and low impurities content (each 1 per cent increase in Fe saves 6-8 per cent of energy consumption).

The initiative also covers the steel production process by charging hot DRI at (600 oC) to the Electric Arc Furnace, which reduces energy consumption by at least 20 per cent. Emirates Steel reduces carbon emissions through the promotion of energy efficiency practices and the recovery of waste heat measures wherever possible.

POLLUTION PREVENTION

Fume treatment plants are present at Emirates Steel facilities to remove all dust and particles from emissions to promote a clean, healthy and safe working environment. The Company analyzes its air emissions and waste water generated from the plants and measures noise levels to comply with environmental federal law and international standards.
**By-PRODUCTS AND WASTE REDUCTION**

Emirates Steel has long term contracts with a group of certified service providers with whom the waste management activities are carried out inside and outside Emirates Steel round the clock.

Waste Management covers mainly the collection, transport, segregation, processing or disposal, managing and monitoring of waste and by-product materials. All waste materials, whether solid or liquid, hazardous or non-hazardous, fall within the scope of waste management according to agreed standards.

Additionally, Emirates Steel is considering proposals from suppliers that identify opportunities for 100% utilization and re-use of steel manufacturing by-products. Although it is still early in the evaluation process, Emirates Steel is working pro-actively with potential suppliers to progress options that will eliminate by-products and waste.

**CO2 CAPTURE**

One of the core objectives at the heart of Emirates Steel’s success story today is its desire to meet market demand by producing steel in a safe and sustainable way. Included in these priorities is Emirates Steel’s on-going effort to utilize the CO2 it has generated during the iron reduction process at its DRF plants, and its work to promote environment and resource conservation.

In November 2013, the Abu Dhabi National Oil Company (ADNOC) and Masdar, the nation’s renewable energy company created a joint venture to develop commercial-scale projects for carbon capture, usage and storage (CCUS). It will build a $123 million CO2 compression facility and a 50 kilometer pipeline, along which CO2 will be pumped to ADNOC’s oilfields.

Emirates Steel is a key partner in this project – the CO2 its plants generate will feed the project when it goes operational in 2016 and the compression plant will be located close to its premises. The project will sequester up to 750,000 tons of CO2 annually, which is equivalent to planting around 100,000 trees – a massive contribution to Emirates Steel’s carbon footprint, which at the same time will improve ADNOC’s oil recovery. Emirates Steel is the first steelmaker in the world to capture its CO2 emissions on this scale, with the possible exception of some North American projects.
SUSTAINABILITY

The steel production industry can only show sustained development if the negative impact on the environment, society and economy is minimized; this is one of Emirates Steel’s commitments. Being a leader in the UAE steel industry, the Company is aware of its important role and responsibility for sustainable development.

Emirates Steel strives to reduce the impact on the environment from production activities as well as aiming to provide a favorable living environment for the UAE community by conducting business in a socially and environmentally responsible manner, preventing environmental pollution and reducing the generation of wastes during production.

The long-term plans of Emirates Steel envisage an increase in environmental investments, which will enable the Company to rank among the best GCC companies in terms of environmental protection, thus strengthening its competitive advantage and contributing to the Company’s sustainable development. All this will ensure that the Company adheres fully to the world’s environmental standards.

SLAG MANAGEMENT

Whenever iron and steel are being produced, slag will be generated as a by-product.

Slag is the solid material that results from the interaction of flux and impurities in the smelting and refining of metals. Generated slag in the Emirates Steel process is an environmentally safe and valuable by-product. Approximately 0.145 ton of slag is generated for every ton of steel produced.

Emirates Steel processes its slag into different sizes, after separating the metallic pieces for recharging them back into the Electric Arc Furnace.

The processed slag is used as aggregate for roads (coarse size as sub-base and fine size as top layer), railway ballast, waterway construction, rock fill, lamps of slag used for fusing of coral larvae to improve the marine life, while the rest of the processed slag is used for land filling.
<table>
<thead>
<tr>
<th>CERTIFICATIONS</th>
<th>Details</th>
</tr>
</thead>
</table>
| Quality Management System Certification           | ISO 9001:2008  
• UK CARES (United Kingdom Certification Authority for Reinforcing Steel)  
• Certification Number: 1122 |
| Sustainability Certification                      | CARES SS A01 & A05  
• UK CARES (United Kingdom Certification Authority for Reinforcing Steel)  
• Certification Number: 1338 |
| Environment Management System Certification       | ISO 14001:2009  
• TUV Nord  
• Certification Number: 44 104 100298 |
| Occupational Health and Safety Management System Certification | BS OHSAS 18001:2007  
• TUV Nord  
• Certification Number: 44 116 100298 |
| Product Conformity Certification                 | ISI Mark – IS 2062:2011  
• BIS (Bureau of Indian Standards)  
• Certification Number: CSIR/444343 |
| Product Conformity Certification                 | CE Mark – EN 10025-2:2011  
• UK CARES (United Kingdom Certification Authority for Reinforcing Steel)  
• Certification Number: 1244-CPR-1026 |
| Declaration of Performance                       | No. ES-QAD-DOP-01-2014 |
| Product Conformity Certification                 | MS EN 10025-2:2011  
• SIRIM (Standards and Industrial Research Organization Malaysia)  
• Certification Number: PC 000694 |

Note: Copies of original certificates can be provided upon request.
AWARDS / WORLD RECORDS

Awards / Appreciation
• Sheikh Khalifa Excellence Award for compliance with European Foundation for Quality Management - EFQM Excellence Model
• SIRIM (Malaysia) Appreciation for quality compliance to Malaysian Standards
• Dubai Central Laboratory (DCL) Appreciation for Sustained Quality Compliance

World Records
• Emirates Steel set new world record in steel making of 34 heats from the EAF producing 5197 tons of liquid steel converted into 4,993.8 tons of billets through the Continuous Casting Machine.

Commercial License
• Department of Economic Development
  - License No.: C2-100574

Industrial Licenses
• Department of Economic Development
  - License No.: B46

Test Certificate
• Exova Abu Dhabi Laboratory
  - Report Number: A 3024/54-A 3024/55 – A 3024/56

PREQUALIFICATION

<table>
<thead>
<tr>
<th>COMPANY NAME</th>
<th>COUNTRY</th>
<th>REG. NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADCO</td>
<td>UAE</td>
<td>36607</td>
</tr>
<tr>
<td>NDC</td>
<td>UAE</td>
<td>3776</td>
</tr>
<tr>
<td>SADCO</td>
<td>UAE</td>
<td>900721</td>
</tr>
<tr>
<td>ADMA</td>
<td>UAE</td>
<td>16048</td>
</tr>
<tr>
<td>ZADCO</td>
<td>UAE</td>
<td>46624</td>
</tr>
<tr>
<td>ADWEA</td>
<td>UAE</td>
<td>48624</td>
</tr>
<tr>
<td>GASCO</td>
<td>UAE</td>
<td>909721</td>
</tr>
<tr>
<td>MA’ADEN</td>
<td>KSA</td>
<td>N/A</td>
</tr>
<tr>
<td>ARAMCO</td>
<td>KSA</td>
<td>N/A</td>
</tr>
</tbody>
</table>

MILL TEST CERTIFICATE
STENCILING, TRACEABILITY AND LABELING

EMIRATES STEEL
JOB: 1040012107
BAR: 9400804271
SALE: 2
GRADE: ASTM A572Gr50 – 2/A992
HEAT: 2022178
LEN: 60
CUST: W 16X40 lbs/ft
SEC:

BAR LABEL

Made in UAE

ESI ORDER: 1040012107
GRADE: ASTM A572Gr50 - 2/A992
HEAT: 2022178
BUNDLE: 0400213295
WEIGHT: 4397
LENGTH: 80
SEC: W 16X40 lbs/ft
No. Bars: 4

BUNDLE TAG

Made in UAE