CSP Integrated Steel Mill Started Operation in June

Two Weeks Early Completion of Moolarben Coal Stage 2 OC4 in Australia

Developing the Strategic Relationship for the World Market

POSCO E&C Promotes Innovative and Core Technology in AISTech 2016 Conference
CSP Integrated Steel Mill Started Operation in June

POSCO, the largest steelmaker in Korea, kicked off the operation of Companhia Siderurgica do Pecem (CSP) steel mill located in Ceara, east of Brazil, nearly a decade after the company first unveiled the plan.

VIPs from Vale, the federal government, POSCO, and Dongkuk joined the blow-in ceremony held at the site on Friday, 10th June, 2016.

CSP Integrated Steel Mill, a mega project with a total investment of US 5.5 billion dollars, started construction in July, 2012. Brazil-based Vale, the largest iron ore mining company in the world, invested 50 percent shares as an iron ore provider and POSCO invested 20 percent shares as a technology and operation know-how provider. Dongkuk Steel also invested 30 percent shares in return for the stable off-taking of slabs produced from the plant.

The mill can produce 3.0 MTPY of semi-finished steel products (slab) and from the total production, 1.6 MTPY will be secured by Dongkuk, 0.8 MTPY by POSCO and 0.6 MTPY by Vale. POSCO joined this CSP project by request from Vale in recognition of its advanced blast furnace technology in the operation and maintenance aspect.

Meanwhile, the total EPC contract amount which POSCO E&C signed adds up to 4.4 billion dollars. As this project is one of the biggest Integrated Steel Mills designed and constructed solely by one contractor, POSCO E&C is said to be able to prove its core competence in Steel Plant technology and Mega project management in overseas market. Before the completion of this CSP Integrated Steel Mill, POSCO E&C also completed another Integrated Steel Mill in the same size in Krakatau, Indonesia. Krakatau Steel Mill is now operating successfully with the annual capacity of 3 million ton.

The CSP Integrated Steel Mill consisting of stock house, sinter plant, iron making plant, steel making plant and caster has been developed over 4 years of construction period consuming ten thousands workers everyday.

Apart from the plant construction, Ceara state government and the federal government of Brazil have invested US 0.7 billion dollars in the development of infrastructures such as harbor, power plant, substation, road and water treatment.

Under the industrial environment, CSP can load and unload raw materials and steel products effectively.

Additionally, as the biggest foreign capital investment project and the national project to develop North Eastern of Brazil, it has been offered a variety of supports such as industrial complex renovation, designation as a free export zone and financing. CSP Integrated Steel Mill would not only increase the production of slab in Brazil by 48% and GDP in Ceara province by 12% but also create 10,000 new jobs including 2,800 from POSCO and 1,200 from outsourcing companies. It is highly anticipated to contribute to the economic boost of Brazil and the enhancement of friendly relationship between Korea and Brazil.
POSCO E&C Breaks Ground for Panama's LNG Terminal and CCPP

POSCO E&C has signed a new EPC contract valued US 650 million with Gas Natural Atlantico S. de R.L. and Costa Norte LNG Terminal S. R.L. (subsidiary of AES Panama) for building a 180,000 m³ LNG Terminal and 380MW combined-cycle power plant at Colon in Panama.

This success could be possible thanks to its decade-long investment on the customer satisfaction and the lessons learned. POSCO E&C’s business in Latin America is dated back to 2006, when it became the first Korean construction company to construct a power plant in Latin America with the AES Ventanas coal-fired power plant in Chile.

After that project, POSCO E&C has been awarded the Campiche and Angamos projects in 2007 and the Kalipa and Chilca Uno combined cycle power plant in Peru in 2009 in a row, which contributed to the increasing competitiveness and reputation of POSCO E&C in Latin American EPC Market.

“This terminal will focus on the use of LNG as a fuel source for electrical power generation for the Panamanian market, a redistribution point for small-scale LNG plants to be scheduled in the region and a LNG-bunkering facility as an alternative fuel for vessels transiting the Panama Canal,” an ACP (Panama Canal Authority) source said.

The terminal includes jetty for 90,000 DWT of LNG carriers, storage tanks and regasification facilities to provide natural gas for power plant fuel. Also, the power produced from this combined cycle power plant can be supplied to around 15 million households simultaneously, which will ensure a stable supply to the industrial complex near the Panama Canal and Colon area.

Two Weeks Early Completion of Moolarben Coal Stage2 OC4 in Australia

On 7th May, 2016, POSCO E&C has successfully completed the construction of Moolarben Coal Stage2 OC4 in NSW, Australia. The construction was completed 11 weeks earlier than the original schedule as a result of POSCO E&C’s accumulated know-hows in raw material handling area. As a reward for the early completion of this project, POSCO E&C has secured incentive payment.

POSCO E&C was awarded this project from Yancoal in April, 2015. Through the completion, Moolarben mine has the capacity to produce up to 12 million tons per annum of Run of Mine (ROM) coal.

Through this successful completion of the project, POSCO E&C came to obtain a track record about coal handling plant in Australia and prove its competitiveness in material handling plant.

Based on this project, it is expected that POSCO E&C will be able to take an advantageous position in mining plant business area in Australia.

Meanwhile, with recognition of outstanding outcome in this project, POSCO E&C was additionally awarded Stage2 UG project from the client in February, 2016.

Developing the Strategic Relationship for the World Market

The Chair of CITIC Construction, Mrs. Hong Bo, visited POSCO E&C for discussing the strategic cooperation scheme between CITIC and POSCO E&C for potential projects in the world market last 25th April, 2016.

During the meeting, both companies gained chances to provide a brief introduction of each company including experiences and technical know-hows accumulated from many projects around the world over years for a better understanding and agreed on how important this meeting would mean to each other and how both could step forward and take actions as a next step.

Mr. Chan-Kun Han, CEO of POSCO E&C, expressed interests and strong willingness of POSCO E&C to collaborate with CITIC in a various kind of fields, explained how both could create a synergy effect when jointly participating in projects and stressed the importance of developing the strategic relationship in collaboration with other POSCO subsidiaries. In this regard, both companies promised to enter into the strategic cooperation agreement at the end of June this year and CEO Mr. Han will visit CITIC for this signing ceremony.
A. Vacuum pump system

B. Vacuum degasser

C. Vacuum vibrating feeder

D. TOB (Top oxygen blowing)

Comparison of RH system

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<th>Facilities</th>
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<th>Duplex-RH</th>
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<tr>
<td>Ladle Ring</td>
<td>1 Cylinder + 1 Hyd’ system</td>
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<td>Ladle Car</td>
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<td>Oxygen Blowing</td>
<td>1 with preheating</td>
<td>2</td>
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<tr>
<td>Construction fee</td>
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<td>75%</td>
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<td>Max. Heat / day</td>
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<tr>
<td>Charges / Lower Vessel</td>
<td>250-350</td>
<td>More Than 350</td>
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A. Two Operation Position

The high productivity of steel in RH vessel can be achieved by reducing the time losses in equipment installation and production time, utilizing metallurgical reaction during vacuum treatment.

B. Dust Tank System

Dust tank system can reduce the contents of suspended solid value in condenser cooling water.

C. TOB Lance

Two multifunctional TOB Lances are installed in each treatment station allowing the oxygen blowing for forced decarburization and chemical heating. These TOB lances also inject oxygen and natural gas for refractory vessel heating and removal of the skull after metal treatment in the RH vessel.

D. Vacuum Vibrating Feeder Equipment

POSCO E&C has developed the vacuum magnetic vibrating feeder which brings simplified configuration of the plant without vacuum feeder box and improves the alloy charging speed.

Through Duplex RH, the loss of production time due to ladle transfer, vessel exchange and snorkel maintenance can be dramatically reduced. Moreover, Duplex RH can increase productivity, allowing operation and maintenance at the same time. To be more specific, Duplex RH has mainly four advantages:

POSCO E&C Promotes Innovative and Core Technology in AISTech 2016 Conference

POSCO E&C participated in the International AISTech Conference and Exposition in Pittsburgh, USA, the premier technology event for steel industry, from 16th to 18th of May, 2016.

Through AISTech 2016, POSCO E&C’s core steel technology such as FINEX, CEM with PEPCOM capabilities were presented via technical conference. About 100 visitors joined the booth every day and they showed high interest in POSCO E&C’s core technology. POSCO E&C shared ideas on solutions to successfully complete projects.

In addition, engineers of POSCO E&C successfully delivered valuable presentations regarding FINEX andIron & Steel Making technology during the session. POSCO E&C was able to communicate about the innovative technology of POSCO E&C with potential clients from global steel makers.

With this AISTech conference, POSCO E&C was able to improve the reputation and provide a better understanding about its core technologies and capabilities.

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