The New beginning of China Titanium Industry

-----China Titanium Valley

Zou Wuzhuang
President
Baoti Group Ltd.
Baoji, Shaanxi, P.R.China
China Titanium Industry

Since 1954

In 2013

Capacity: 109,000 tons
Output: 81,171 tons

Capacity: 150,000 tons
Output: 62,100 tons

Output: 44,453 tons
## China titanium mill product output in 2013

<table>
<thead>
<tr>
<th>Product</th>
<th>Sheet and plate</th>
<th>Bar Billet</th>
<th>Pipe and tube</th>
<th>Forgings</th>
<th>Wire</th>
<th>Casting</th>
<th>New product</th>
<th>others</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output, ton</td>
<td>23,371</td>
<td>8,901</td>
<td>8,024</td>
<td>1,987</td>
<td>239</td>
<td>607</td>
<td>822</td>
<td>502</td>
<td>44,453</td>
</tr>
<tr>
<td>share, %</td>
<td>52.6</td>
<td>20.0</td>
<td>18.1</td>
<td>4.5</td>
<td>0.5</td>
<td>1.4</td>
<td>1.8</td>
<td>1.1</td>
<td>100</td>
</tr>
</tbody>
</table>
The breakdown of application of titanium milled product

- Chemical: 11%
- Metallurgy: 5%
- Energy & Power: 6%
- Shiping: 1%
- Occeaneering: 1%
- Aerospace & Aviation: 58%
- Medical: 1%
- Sports & leisure: 2%
- Others: 2%
The volume of import and export of China Titanium in 2013 (tons)

<table>
<thead>
<tr>
<th>Year</th>
<th>Titanium sponge</th>
<th></th>
<th></th>
<th>Titanium mill products</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Import</td>
<td>Export</td>
<td>Net export</td>
<td>Import</td>
<td>Export</td>
<td>Net export</td>
</tr>
<tr>
<td>2013</td>
<td>426.5</td>
<td>4026.1</td>
<td>3599.6</td>
<td>4049.7</td>
<td>9996.9</td>
<td>5947.1</td>
</tr>
</tbody>
</table>
China Titanium Valley

Overview

- 80% of China Total Titanium Output
- 20% of world Total Titanium Output
- 40% of China Export titanium mill products

In 2010, the new material industrial base was established in Baoji and it was approved as “China Titanium Valley” by China National Development and Reform Commission and the Ministry of Science and Technology.
China Titanium Valley

Strategic positioning

- Integrate advantageous resource
- Upgrading development model of Baoji titanium industrial cluster
- Setting up featured industry cluster, and becoming an important node in the global network of titanium industry
China Titanium Valley

Development goal

Become a demonstration base of R&D and production over next five to ten year.
China Titanium Valley

Advantage

- Baoti Group will be as the base titanium industry
- Having strong capability in R&D for titanium being supported by Baoti Group
- Having complete titanium production system
- Having enough technical expertise and production scale
Based on BAOTI GROUP’s research institute, “China Titanium Valley” will import the global titanium producer and enterprise and set up three R&D center of titanium and its alloy material especially focus on materials, processing technology and application.
China Titanium Valley

R&D Plan

- high-temperature titanium alloy
- particle-reinforced titanium alloy
- combustion-resistance titanium alloy
- functional titanium alloy such as super-conductive, hydrogen-storage and shape-memory titanium alloys
- low-cost titanium for sport and some other titanium alloy as demanded by civil market.
China Titanium Valley

New type of titanium product

- High accuracy tube and capillary tube;
- High-precision bar and wire for glass frame,
- High-performance bar and wire for aerospace fastener
- Profile shaped pipe, tube and forgings
- Deep-processed titanium product applied for sports, leisure and automobile
China Titanium Valley

Researching on titanium process technology

- Recycling
- High-quality large-dimension billets and forgings
- Pack rolling for high quality sheet
- Surface treatment
- Thin-wall thickness welded tube and long tube
- Investment casting and near-net shaped casting
China Titanium Valley

International communication platform

China Titanium Valley is planned to build up an international titanium trading and information platform and to form a multiple win structure following the rapid development of titanium industry in the world.
Welcome to China Titanium Valley

For Additional Information Contact:
Baoti Group Ltd.
Phone: +86-917-3382075
Fax: +86-917-3382316
Email: iedept@baoti.com
Website: www.baoti.com