Baosteel Water Management

Zou Kuan
April 15, 2010
Main Contents

1. Baosteel Overview
2. Water Technology Application
3. Water Management Performance
4. CEO Water Mandate
Overview of Baosteel

Baosteel, iron & steel complex with highest level of modernization and comprehensive product specification, has been listed in *Fortune 500* for consecutive 6 years (2003-2008) and was ranked 220 in 2008. Baosteel is named as one of the “Most Esteemed Companies” in the world.
In 2003, Baosteel became the first in Chinese competitive industry and manufacturing industry to enter “Fortune” Global 500. In 2008, it ranked No. 220th with a gross revenue of USD 35.5 billion. Baosteel has been listed as Global 500 for 6 consecutive years so far.

From 2006 to 2008, Baosteel has been awarded as “the most competitive steelmaker in the world” by WSD for 3 times.

From 2006 to 2008, Baosteel has entered the ranking of “most admired companies in the world” by “Fortune” magazine for 3 times.
Brief History of Baosteel Co., Ltd.

- 1978: Construction started on Dec. 23th
- 1998: Establish Baosteel Group Corp. in Nov.
- 2001: Purchase Phase 3 project from Baosteel Group in June
- 2004: Baosteel-NSC/Arcelor Automotive Sheets Co., Ltd. established in April
- 2005: Overall listing of Baosteel Co., Ltd. in April
- 2007: Purchase Luojing Project in December
- 2008: Issued 10 billion Convertible Bonds with Warrants
Domestic Marketing Branches

- Central China
  - Zhengzhou
  - Hunan

- West China
  - Chongqing
  - Kunming

- South China
  - Foshan
  - Xiamen
  - Guangzhou
  - Guangxi
  - Lanshi
  - Shenzhen
  - Jiangmen

- North China
  - Changchun
  - Haerbin
  - Yantai
  - Dongtai

- Xinjiang

- Steel Trading
  - Hangzhou, Nanjing, Wuxi
  - Shanghai stainless Wuxi Branch
  - Ningbo, Putuo

- Pudong Trade
  - Wuxi, Wenzhou, Ningbo, Baosteel

- Trading
  - Wuxi, Yantai, Xinjiang, Xian
  - Baoshan Co.

- Xinjiang

- 5 regional
- 3 professional
- 15 subsidiaries
- 19 agencies
Baosteel products have been exported to over 40 countries and regions.

Baosteel has explored into global markets of automobile manufacturing, pipeline transport and oil exploration as a strong force to the global steel market.
Baosteel sticks to the policy of 'Environmental Management' to pursue sustainable development by implementing clean production and developing a circular economy, which makes Baosteel a world leading class clean steel corporation. Baosteel is the first national industrial tourist attraction and the most beautiful steel corporation in the world.
Social Responsibility

Baosteel products have entered thousands of families and are close related to your daily necessities. Baosteel keeps in mind its social responsibility, trying the best to be a good corporate citizen by setting up Baosteel education foundation, helping to rebuild Wenchuan, supporting elegant art to show the love and devotion of Baosteel people.
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The yearly average water flow is about 2711.5 billion m$^3$, 2200m$^3$ per capita in our country. China have been listed as one of 13 water-shortage countries by United Nations.

The industry fresh water account for 20% of whole country fresh water input, but the steel industry fresh water account for 2.2% of national industry fresh water input, listed in the fourth place.
From: Yangtze River

Sampling Pump

CI-Monitor

Incoming water head

Reservoir

Front pool

To: Baosteel Water Plant

Water Technology Application

Water Supply System Overview

Fresh Water Input
Water Technology Application
Water Supply System Overview
The Cl⁻ Concentration Curve in March and April 1999

Water Technology Application
CI Level Monitor
Water Technology Application
Reservoir Ecosystem

Reservoir Eco-tech

algae

bighead carp

bream, crucian

clam, crab

snail

microbe and minitype animals decompounded into inorganic substances
Water Technology Application
Reservoir Ecosystem
Water Technology Application
Reservoir Ecosystem

The Reservoir Eco-system Treatment Effect

Before treatment

After treatment
Water Technology Application
Reservoir Ecosystem

before and after extraction

algae blooming

extraction

now
Water Technology Application
Artificial Wet Land

Production waste water

Rain water

sanitary water

artificial wet land process

recyling by quality

original and cascade water

Plant river
The experiment on decontaminating industrial waste water by using of eco-plants
The artificial wet land demonstration project
Water Technology Application
Waste Water Reusing

Different Quality Water Different Treatment & Reuse

Plant River

Waste Water System of No.1 Water Treatment Plant

Coke & Chemical Area Waste Water Part I

Hot Rolling Waste Water Part II

Continues Casting Waste Water

Waste Water

Treated Water Type 2

Oil Waste Water System of No.2 Water Treatment Plant

Waste Water

Oil Waste Water

Treated-Water Type 2

User of Treated-Water Type 1

Features: The quality of treated-water

Type 1:
PH: 7 - 9
COND.: < 3000 μs/cm
Cl⁻: < 500 mg/l

Type 2:
PH: 7.5 - 9
COND.: < 1500 μs/cm
Cl⁻: < 200 mg/l

Treated - Water Type 1

Cold Rolling Waste Water Part I

Cold Rolling Waste Water Part II

User of Treated-Water Type 2

User of Treated-Water Type 1

Oil Waste Water System of No.2 Water Treatment Plant
Using reclaimed water instead of industrial water
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Water Management Performance
Water Reusing and Recycling Ratio

- Industrial water recycling ratio 98.2%
- Industrial water consumption
- Fresh water
- cascade water
- waste water reusing ratio 95%
- water loss
- outlet waste water
Water Management Performance
Water Reusing and Recycling Ratio

Waste Water Utilization

Volume (Million m³)

Year

01 02 03 04 05 06 07 08 09

0 2 4 6 8 10 12 14
Water Management Performance
Water Reusing and Recycling Ratio
Water Management Performance
Fresh Water Consumption

Fresh Water Consumption

Year

ton/tons of steel
Water Technology Application

The leading role in domestic steel-making field

The fresh water consumption per ton of steel inside Baosteel and in other key domestic steel plants
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CEO Water Mandate
Community Engagement

Baosteel Reservoir
Supply high quality water to the civil water system (300,000 tons/day)
• Establish the harmonious relationship and well-balanced development between human beings and environment.

• Build a plant with "blue sky, green land and clusters of flowers everywhere".
Publishing environmental report and later sustainability report

- 2004: the first issue of Environmental Report, also the first in China
- 2005: the second issue of Environmental Report
- 2006 2007 2008: extended to sustainability report reference to Global Reporting Initiative Guideline
THANK YOU

Better Steel, Better Life

Contact
zoukuan@baosteel.com
http://www.baosteel.com