

Launch of China's First Copper Alloy Plate Heat Exchanger

Experts believe that the launch of China's first copper alloy plate heat exchanger in Shanghai, China on April 29, 2008 created the blue ocean of domestic plate heat exchanger market. The advantages such as corrosion resistance, high thermal conductivity and anti-microbial of copper alloy materials are made good use of by this product which is featured with economical, practical and reliable. Moreover, copper alloy plate, the key component of the product can be supplied stably in a long term.

It is introduced that this product is independently developed by International Copper Association (China), Heat Exchangers Sub Committee of China Standardization Committee on Boilers and Pressure Vessels, and main enterprises from plate heat exchanger and copper process industry on the basis of voluntary cooperation. The product is innovated firstly in China at present and it possesses wide application fields and development space in the future.

High Cost Performance and Stable Supply

It is said by the professionals that stainless steel and titanium plates are widely selected in domestic plate heat exchanger market; however, both of the above materials have disadvantages in practical utilization.

The earlier comparison and analysis result of thermal performance test to the three types of plates conducted by the related authorized technology department shows that: the heat coefficient of copper alloy is far higher than that of stainless steel and titanium, the amount of the heat exchanger plates applied thus can be greatly reduced and the investment cost of the customer is lower. In addition, another comparison and analysis of corrosion resistance performance under harsh water flow environment also shows that the corrosion resisting lifespan of copper is as long as 3 times of that of the stainless steel; compared with titanium, copper alloy is more competitive because of its low price and its stable supply.

It is predicted that the following 20 years will be the vigorous period for promoting plate product. The experts believe that the launch of copper alloy plate heat exchanger at appropriate time provided the customers with a product of high cost performance in light of economy and technology. In recent years, with the rapid development of domestic markets of geothermal resources, the plate heat exchangers are in great demand in fields such as ship manufacture by rivers and by seas, sea water aquaculture, sea water desalination, and utilization of waste heat of electric power plants. The copper alloy plate heat exchangers have a promising future in these fields.

Development Mode Creates Win-win Situation

It is learned that copper processing enterprises obtained supports from the plate heat exchanger industry in the project research and development process of copper alloy plate heat exchangers. For instance, key technical parameters such as requirements for corrosion resistance and process are provided and confirmed; the plate heat exchanger industry were cooperated by copper

processing enterprises as well in summarizing the corrosion resistance performance of copper alloy, and in searching and developing applicable copper alloy.

Zhang Yanfeng, Chairman of CHEC said that there would be a bright prospect for copper alloy plate heat exchangers; the revenue sharing and cooperative development between supply chains in upstream and downstream areas is instructive in China. He hopes this project will make contribution to the copper industry as well as the plate heat exchanger industry and become a good beginning for cooperation between the two parties.

Achievements Coming from Three Year's Cooperation

It is said by the project research & development group that the R & D project of copper alloy plate heat exchangers is initiated by the International Copper Association (China) together with CHEC. The members are from major enterprises in the plate heat exchanger industry and the copper processing industry, such as Beijing Jinghai Heat Exchange Equipment Manufacture Co., Ltd, Zibo Taile Heat Exchange Equipment Co., Ltd., Minlong Industry-Fujian Quanzhou Jiangnan Condenser Factory and Shanghai LongEn Heat Transfer Technology Co., Ltd.

The project was started in 2005. With three year's continuous efforts spent on research, development and experiments, key issues such as researches & development of copper alloy plates for plate heat exchangers, manufacture of copper alloy plate heat exchangers and researches on corrosion resistance are accomplished. A series of preliminary achievements and technical breakthroughs have been made. Eventually, the innovative copper alloy plate heat exchanges with independent intellectual property have been unveiled in 2008.

When the project R & D group accomplishes the mold development and summarization of technical documents, the following R & D work will be taken over by the promotion group. However, the R & D work is not ceased, and the focus of the project will be analysis of corrosion condition after site application, and corrosion resistance solutions so as to provide technical supports to enterprises.

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