



一種耐腐蝕不銹鋼製板式熱交換器

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市場及需求：

目前市場中製作板式熱交換器的大廠主要是以硬鐸方式為之，較為成熟的技術是以銅箔為鐸料的銅鐸製程製作 316 不銹鋼板式熱交換器。近年來因應板式熱交換器之需求有耐腐蝕方面的要求，傳統板式熱交換器早已無法滿足現今許多工業應用。

技術摘要(含成果)：

本技術製作具有低成本、耐腐蝕的不銹鋼製板式熱交換器，以取代現有銅鐸製程製作抗蝕性較差之不銹鋼板式熱交換器，或價格昂貴且耐壓不足之鎳基合金板式熱交換器。

優勢：

本技術可大幅降低板式熱交換器鐸點內具脆性介金屬化合物之數量，進而增強其鐸點韌性與強度。故為此材料組合應用於製作板式熱交換器之中相當成功，具有新穎性及進步性。

競爭產品：

現今商品化之板式熱交換器應用於腐蝕環境中，僅有使用鎳基硬鐸填料製作不銹鋼或鎳基合金之板式熱交換器，或使用鈦(鋳)基鐸填料製作鈦合金之板式熱交換器。然而，此類板式熱交換器不僅價格昂貴(比銅鐸製程製作 316 不銹鋼板式熱交換器貴 5 ~ 20 倍)，其耐壓能力均低於 100 大氣壓。

專利現況：

- (1)本技術已有相關專利 (中華民國專利申請號: 105201527)。
- (2)本研究團隊具有十年以上開發板式熱交換器研究經驗。

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A Corrosion-Resistant Plate Heat Exchanger Made by Stainless Steel

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Market Needs:

The major manufacturers of plate heat exchangers in the market are mainly brazed. Current technology is to produce 316 stainless steel plate heat exchangers by brazing with copper foil as filler. Traditional plate heat exchangers have been unable to meet many industrial applications today.

Our Technology:

This technology manufactures stainless steel plate heat exchangers with low cost and corrosion resistance to replace the existing stainless steel plate heat exchangers with poor corrosion resistance, or expensive nickel-based alloy plate heat exchangers with insufficient pressure resistance.

Strength:

This technology can greatly reduce the amount of brittle intermetallic compounds in the brazed joints of the plate heat exchanger, thereby enhancing their toughness and strength.

Competing Products:

Traditional plate heat exchangers used in corrosive environments are not only expensive but their pressure resistance is not satisfactory.

Intellectual Properties:

This technology has applied for patent (Republic of China Patent Application No. 105201527). The research team has more than ten years of research experience in developing plate heat exchangers.

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