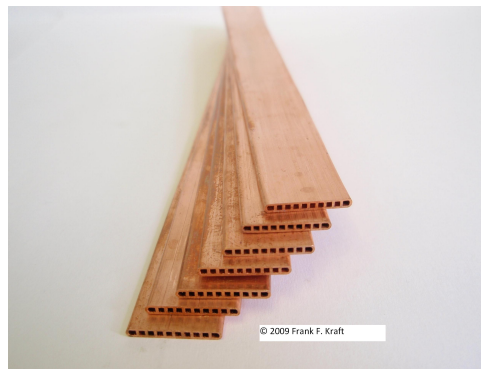


COPPER MICRO-CHANNEL TUBE FOR HVAC APPLICATIONS

Technology Overview

Micro-channel heat exchangers are the latest trend in heating and cooling technologies providing up to a 40% increase in efficiency. Most micro-channel heat exchangers on the market today are constructed out of aluminum.

The invention is a method to produce a copper micro-channel tube. The intent of this invention is to create a more long-term and durable heat exchange system for the commercial and residential HVAC industries. Formation of a copper micro-channel tube is an engineering challenge as compared to aluminum micro-channel tubes due to the increased temperatures required.



Potential Fields of Use

The target industry for this invention is the HVAC market in the US, European Union, China, and Japan. The US, China, and Japan are the largest producers of HVAC equipment. The HVAC industry has favored copper heat exchangers over aluminum heat exchangers.

HVAC industry's revenue exceeded \$31 billion in 2008 with \$6.5 billion in profit. The market is also growing at a rapid pace driven by adoption in developing countries. By 2012, the HVAC industry is expected to exceed \$70 billion worldwide.

Benefit Analysis

A copper micro-channel tube has some advantages over the aluminum-based systems:

- Greater heat exchange
- Better long-term durability and resistance to corrosion
- Lower cost of maintenance when metal-work is required
- Copper is anti-microbial

Stage of Development

Laboratory scale production of samples is available for testing.

Future Development

At this time the researchers are addressing issues of scale up and testing of the existing samples.

Licensing Opportunities

A patent application for this technology has been filed in the US, Canada, European Union, and Japan. Licensing opportunities are available.

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