

Research on Small Tube Copper Coils Presages Economical Production of High-Efficiency Air Conditioners

ICA Co-sponsors Research on Heat Exchanger Coils with Universities and OEMs in China

New York, NY (September 30, 2010) — The International Copper Association (ICA) today announced recent research results for heat exchanger coils made with small-diameter copper tubes. Research results from a Chinese small-diameter copper tube research consortium as well as published articles from Chinese OEMs form a foundation for the development of air conditioning products that use less material and are more economical than those products made with conventional tubes. Consortium members include the ICA, two universities and at least five air-conditioner OEMs.

Wenson Zheng, Frank Gao and Kerry Song from ICA recently coauthored two articles on small tube copper with investigators from Shanghai Jiao Tong University (SJTU); and two articles with researchers from Xi'an Jiao Tong University (XJTU). The School of Energy and Power Engineering, Xi'an Jiao Tong University, Xi'an, China is one of the leading air-conditioning and heat-transfer research facilities in the world. The Institute of Refrigeration and Cryogenics at Shanghai Jiao Tong University, Shanghai, China is renowned for its world-class research.

Additional articles have been published by OEM members of the consortium. The four papers with ICA coauthors encompass key aspects of coil design and testing, including such subject matters as tube circuitry, fin design and refrigerant behavior for heat exchangers coils made with small copper tubes.

“These results demonstrate the feasibility of making residential air-conditioners with small diameter copper tubes,” says Nigel Cotton. “They set the stage for high-volume production of a new generation of economical, energy-efficient air-conditioning products. Conventional copper tubes have set the standard for decades in air-conditioning. Smaller diameter tubes offer all of the advantages of this field-proven material but are more economical because higher heat-transfer coefficients are possible for small tubes compared to conventional tubes.

Abstracts and links to these papers are available online at www.microgroove.net. For more information about heat exchanger coils made with small tube copper, visit www.microgroove.net.

About ICA

The International Copper Association, Ltd. (ICA) is the leading organization for promoting the use of copper worldwide. ICA's mission is to promote the use of copper by communicating the unique attributes that make this sustainable element an essential contributor to the formation of life, to advances in science and technology, and to a higher standard of living worldwide. Visit www.copperinfo.com for more information about ICA.

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